



# AIR, SOIL AND WATER ENVIRONMENTAL CONSULTANTS, INC.

# **PCB ABATEMENT REPORT**

PHASE ONE

For

## **UNIVERSITY MEDICAL CENTER OF EL PASO**

June 22, 2010

1615 Arizona Ave. Office 915-533-3344 Fax. 512-697-8300 El Paso, Texas 79902 Email rdaniels53@sbcglobal.net

## **TABLE OF CONTENTS**

		Page Number
1.	Executive Summary	4
2.	Record Search	4
3.	Interim Corrective Action	4
4.	Project Management	5
5.	Determination of Abatement Extent	6
6.	Abatement Approach	8
7.	Chemistry Results	8
8.	Disposal	10
9.	Memo from the EPA	11

## **APPENDIX**

- UMC First Floor Layout
- Confirmation Sample Locations
- Air Sample Locations
- East Wall Panel Locations
- Photos
- Analytical Results
- Laboratory Reports
- Air Sample Reports
- Marcor Emergency Response Action Plan
- Waste Manifest
- PCB abatement plan
- Air monitoring plan
- EPA Correspondence
- Environmental Information

## 1.0 Executive Summary:

ASW conducted a follow up contamination investigation of the PCB laden caulk for the University Medical Center El Paso. This investigation included interior air monitoring of the West Tower, along with exterior sampling of selected locations for suspected PCB containing materials. In response to a construction requirement ASW wrote an abatement plan and air monitoring plan for a partial abatement project. Both plans were accepted by the EPA. ASW conducted the project management, air monitoring and confirmation sampling for the PCB abatement of the selected sections of the first floor East Wall and Southwest Walls.

Polychlorinated biphenyls PCBs has been identified as a constituent of the caulking material within the expansion joints of the exterior wall panels. The wall panel covers the majority of the West Tower of the University Medical Center (UMC). The West Tower is an eight story building. PCBs have been identified by EPA analytical methods in the caulk and adjacent concrete materials within the wall panels. Detectable quantities of PCBs were located in the West Tower's first through seventh floors. This section of the hospital was built in the 1960s.

The project consisted of polychlorinated biphenyls PCB-containing caulk removal from the expansion joints adjacent to the exterior concrete wall panels. The remediation included partial removal of designated wall panels, debris and waste handling and disposal. The work will be performed under the current USEPA regulations and guidelines.

### 2.0 Record Search

The University Medical Center conducted a record search to obtain the identity of the manufacture of the PCB containing caulk. The original 1959 architectural drawings of the subject building were found, however the plans did not outline the manufacture of the PCB containing caulk. A set of drawings were duplicated and sent to the EPA.

#### 3.0 Interim Corrective Action

Three potential exposure pathways have been identified as areas with possible exposure to pedestrian traffic and employees work areas. These areas include the Associates Entrance and Rear Exterior Wall on the first floor and the Work Areas on the second floor. As per the CURRENT BEST PRACTICES FOR PCBS IN CAULK FACT SHEET; Interim Measures for Assessing Risk and Taking Action to Reduce Exposures, October 2009, UMC sealed the expansion joints with heavy-duty plastic strips. The plastic strips were adhered to the surrounding wall panels by an adhesive in areas exposed to the general public. The strips were wide enough to cover the expansion joints along with the areas of potential migration of

PCB into the surrounding wall panels. Please see the attached drawing showing the areas the plastic strips covered.

## 4.0 Project Management

At the request of University Medical Center (UMC), El Paso, Texas, Air Soil and Water Environmental Inc. (ASW) provided project management of the Phase I PCB Abatement for the University Medical Center, El Paso, Texas. An abatement plan, *Phase I Abatement of PCB Caulk*, and an air monitoring plan have been written and were sent to the EPA for review. The plans were acceptable to the EPA.

During the abatement activities, ASW provided oversight of all work associated with the Phase I PCB Abatement. This included ensuring the abatement contractor adheres to the EPA regulations including, but not limited to 40 CFR § 761.62(a). ASW performed air monitoring activities inside the negative pressure containment area, as well as, the monitoring the ambient air outside the containment area to determine if PCBs were released beyond the containment area.

The original abatement plan was to consist of the removal of PCB laden caulk contained in the expansion joints of the exterior wall panels located in the southwest portion of UMC, where a new addition to the Emergency Department (ED) required the complete removal of the panel walls. The plan called for the panels to be clean up to EPA requirements and be disposed as an industrial waste. However, during abatement of the ED area a discovery was made indicting the east wall of the West Tower could be enclosed by the merger with the new East Tower within a month. A decision was made to remediate this section while the east wall was still exposed. Two sections on the eastern wall were not remediated. The northern section of the east wall was already reconstructed with a new concrete stucco cover. The other section not disturbed was within to the middle section of the east wall, 45 linear ft of the eastern wall was reconstructed with a new material with a similar appearance to the original wall panels. The material was actually a stucco adhered to a metal wire and a similar aggregate to the wall panels was imbedded into the stucco. No caulking was discovered surrounding this aggregate encrusted stucco.

The first activity of Phase I Abatement consisted of the removal of caulk from 17 panels surrounding the proposed construction area of the expansion of the existing emergency room. After lab results indicated the remaining wall material was less than 1 ppm, 8 of the 17 panels were removed by the General Contractor, Robins & Morton and were disposed as an industrial waste as per an EPA memo directing the proper disposal of the wall panels, see page 12; EPA Memo.

After the first abatement attempt was made at the West Wall; South side was finished, high winds tore down the containment unit. The unit was clean and ready to be removed. ASW requested Marcor the abatement contractor to write an Emergency Response Action Plan under ASW directions to reinforce the existing operations. Changes to the containment included attaching the plastic to scaffolding with a plywood outer shell for reinforcement and wind protection. ASW had Marcor include written instructions to stop abatement, clean up any ongoing activities and secure the containment if the sustained winds exceed 25 MPH.

The abatement contractor setup the containment area and a differential pressure data logging to record negative pressure readings. The set point was a pressure that would be greater than the pressure required by OHSA for asbestos abatement.

## 5.0 Determination of Abatement Extent

The first abatement and sampling investigation indicated that when concrete wall panels were properly prepared prior to sampling the concentration of PCB within the concrete did not exceed the EPA hazardous material limit of 50 ppm.

The previous sampling technique for concrete incorporated the chipping of the concrete wall panels to retrieve a sample. There is a possibility some caulking was still attached to the surface of the concrete wall panel and was removed along with the concrete sample. Additional concrete samples were extracted to determine if PCBs migrated from the caulking into the concrete.

This sampling was accomplished by coring small diameter samples, ¼" to ½" inch into the wall panel at discrete intervals from the expansion joint.

The sampling of the concrete in the wall panels for PCB consisted of coring holes at discrete distances from the surface of expansion joints. Each of the concrete samples was tested for PCBs. This sampling and testing determined the PCB penetrated into the wall panel from the caulk no more than 3 inches.

In the first abatement, concrete wall panels were cut 3 inches from the edge of the expansion joint to removed areas with concentration above 1 ppm. Only the wall panels that were scheduled to be removed or that would be covered within a month by the attachment of the new Children's tower to the existing West Tower were abated. Since the outcome of the risk assessment would not be approved by the EPA before the East Wall was enclosed by new construction, the prudent approach was to remediate this section before the risk assessment. Abatement of the East Wall will avoid this section to be incorporated into the risk assessment.

When discussing PCB contaminated materials the differentiation between the original materials manufactured with PCB (caulk) and the material contaminated by migration of PCB from the original PCB containing material becomes important in understanding PCB remediation.

In the case of UMC, the caulk manufactured with PCB would be classified as *PCB bulk product waste* under 40 CFR § 761.3. All other material, such as the surrounding concrete, contaminated by the caulk is classified as *PCB remediation waste* as defined by 40 CFR § 761.3.

From EPA documentation "Caulk containing PCBs at concentrations  $\geq$  50 ppm is not authorized for use and must be removed and properly disposed. When disposed, the caulk must be managed as *PCB bulk product waste*. Regulations governing the cleanup and disposal of *PCB bulk product waste* are provided at 40 CFR § 761.62. All PCB-containing caulk or caulk coated building material containing PCBs at concentrations  $\geq$  50 ppm must be removed unless otherwise approved by EPA under a risk-based disposal approval issued under 40 CFR § 761.62(c)".

Based on the limited current analytical data, at UMC the caulk PCB levels are higher than the 50 ppm and along with the friable condition of the caulk; ASW believes a risk assessment would require removal and disposal of older caulk at UMC. However the material contaminated by caulk is governed under a different regulation. "Regulations governing the cleanup and disposal of PCB remediation waste are provided at 40 CFR 761.61. The requirements in this section vary depending on, among other things, the type of building material that contains the PCBs (i.e., porous or non-porous) and the potential exposure levels remaining after cleanup is completed." The risk assessment will focus on the low potential risk of the PCB remediation waste, concrete of the wall panels and load bearing supports, being undisturbed and left in-place.

The chemical properties of PCB may allow the PCB to migrate into surrounding materials, such as concrete. A second avenue of cross contamination could be by suspended air borne particulates from the friable caulking material coating the concrete surface. The matrix within the PCB laden caulk has deteriorated over the years and the current physical condition of the caulk is extremely friable. This friable condition could lead to the caulk becoming air borne and could re-adhere to the surface of the concrete panels. In consideration the concrete could be coated with PCBs from friable caulk, ASW prepared the concrete surface area prior to extracting a concrete sample from the wall panels by physically removing foreign particulates that may have contained PCBs particulates. Coring drilling of the concrete wall panels was employed as a discrete sampling technique to protect core sample from comingling with the caulk from the expansion joints. The concrete material that was sampled and tested using the above referenced sampling technique did not contain PCB concentration above the EPA hazardous

material limit of 50 ppm. ASW believes that further concrete sampling will return similar results.

40 CFR § 761.3 requires the removal and disposal of material containing PCB concentrations greater than 50 ppm. The sampling results would indicate the concrete at UMC will not require mandatory removal. ASW will attempt to demonstrate that removal of the concrete will be a greater risk to the hospital environment than leaving the concrete undistributed, encapsulated and in-place.

The initial abatement completed at UMC was conducted under § 761.61.(a) Self-implementing on-site cleanup and disposal of PCB remediation waste. This regulation provides cleanup and disposal options for PCB remediation waste. In this case concrete is the remediation waste. This regulation does not prohibit any person from implementing temporary emergency measures to prevent, treat, or contain further releases or mitigate migration to the environment of PCBs or PCB remediation waste. This is the only federal regulation that would allow remediation without prior preapproval by the EPA. One disadvantage of this regulation is the cleanup level is  $\leq 1$  ppm rather than  $\leq 50$  ppm. Since UMC is classified as a high occupancy area, the cleanup level under § 761.61.(a) for bulk PCB remediation waste in high occupancy areas is  $\leq 1$  ppm without further conditions.

## 6.0 Abatement Approach

The abatement approach was to remove sections of interior sheetrock within administrative and radiology offices to provide access to expansion joints. The initial abatement activities required the abatement to be conducted within a sealed containment under a negative pressure. Air monitoring PCB results of the ambient air within the containment compared to concurrent air monitoring PCB results outside of the containment unit indicated the negative pressure was effective in preventing air borne PCB particulates from escaping to the exterior of the containment unit and thus insuring the health and safety of the patients, visitors and workers of UMC.

## 7.0 Chemistry Results

ASW used the following EPA Methods Tests to determine the concentration of the PCBs. For determining the presence of PCBs in indoor air, ASW used the EPA approved method: Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air - Compendium Method TO-10A (low air volume).

Solid material testing was conducted in accordance with EPA Method 3500B from EPA's SW-846, Test Methods for Evaluating Solid Waste. For analyzing extracts, Method 8082 from EPA's SW-846 was used.

The air monitoring plan included both pre and post air monitoring events. Eighteen (18) air monitoring samples were taken for Phase I. ASW sent air samples to the laboratory for analysis by EPA 10-A. ASW documented the deferential pressure readings within the containment and the outside atmospheric air pressure to ensure the negative pressure within the containment reduces possible releases of particulates laden with PCBs.

Chemistry summary tables for the confirmation and air monitoring samples are attached in the appendix of this report. The Table 4a contains a breakdown of the laboratory results for 18 air samples monitoring the abatement activities. Samples were taken inside and outside of the containment concurrently to determine if PCBs were escaping the containment. The first sample (ABT-1-PRE) was taken prior to the abatement to establish background conditions. This sample was nondetectable. All inside samples (IN-CON) showed PCBs whereas all samples taken outside (OUT-CON) of the containment were non-detectable except during a failure of the duct tape adhering the containment to the wall on 4/12/2010. On this date, a Sunday, a failure occurred when elevated ambient heat created a failure of the adhesiveness of the duct tape securing the plastic sheeting of the containment unit to the exterior walls of the hospital. The 24 hr. test indicated the ambient air contained a PCB concentration of 2.3 ug/m3. Prior to this incident, small leaks in the containment unit indicated the pressure within unit was greater than the goal of -2 inches of water set at the beginning of the abatement. The leaks were fixed by employing a better control of the decontamination change areas.

The air samples were collected using the EPA sampling and analysis methodology. The applicable method to sample and analyze polychlorinated biphenyls (PCBs) in ambient air is U.S. EPA METHOD TO-10A. This method is used for the determination of polychlorinated biphenyls (PCBs) in ambient air. The method is based on the collection of chemicals from ambient air onto a filter and a polyurethane foam (PUF) cartridge using a low volume sampler. The sampler is operated at 1 to 5 L/min for 24 hours. The target compounds are extracted and analyzed by gas chromatography (GC) with an electron capture. Air samples were sent to Columbia Analytical Services - Simi Valley, Ca for testing.

After the abatement was finished, seven confirmation samples were extracted from the wall panels and undistributed building material to ensure the proper clean up levels have been obtained.

The second chemistry table (Table 4.b) is the results of the concrete wall samples to confirm the amount of PCB left in the wall after abatement. The first 2 samples indicates the first abatement attempt on the ER's South wall failed to achieve the target clean-up of less than 1 ppm as directed by the EPA. After the 3" cuts of concrete were removed from the edge of the expansion joint, all confirmation samples on both the south and west wall were less than 1 ppm.

After the first abatement of the caulk and panels, the first 2 concrete wall panels confirmation samples came back at 60 and 120 mg/Kg by EPA 8082. A modification to the abatement plan consisted of removing 3" of concrete panel sections from the expansion joint's edge. After the removal of the 3" cut, the remaining panel PCB level is at 0.17 mg/Kg (sample was taken from the new edge).

EPA METHOD 8082APOLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY SW-846 will be used for the analysis of wipe, caulk and concrete samples. Samples will be sent to Columbia Analytical Services, Inc. Kelso, Washington.

The equipment used for air monitoring was Bios Defender Model 510H electronic Primary Standard Calibrator with lead-acid battery, and the AirChek XR5000 Pump, Hi-Power Li-Ion, UL.

## 8.0 Disposal.

Disposal of waste materials that contain PCBs was conducted in compliance with the Toxic Substances Control Act (TSCA). Disposal of the contaminated materials was transported to a TSCA chemical waste landfill and a TSCA approved incinerator.

PCB remediation waste was disposed of in a hazardous landfill with >1 ppm PCB. PCB Bulk Waste was sent to a TSCA approved incinerator.

Concrete panels were sent a non-hazardous landfill after lab results indicated the panels contained a PCB content of less than 1 ppm.

40 CFR § 761.61 "(A) High occupancy areas; indicates the cleanup level for bulk PCB remediation waste in high occupancy areas is  $\leq 1$  ppm without further conditions." The high occupancy area appears to be setting for cleanup at this facility. In 40 CFR § 761.61 it states "(ii) Bulk PCB remediation wastes with a PCB concentration of  $\leq 50$  ppm shall be disposed of in accordance with paragraph (a)(5)(v)(A) of this section".

## 9.0 Memo from the EPA

Ms. Lou Roberts
Regional PCB Coordinator
USEPA REGION 6
1445 Ross Avenue
Suite 1200
Mail Code: 6ENHM
Dallas, TX 75202-2733

#### Robert,

Thank you for submitting your latest documents for my review, since this is the first caulk remediation activity undertaken within Region 6 jurisdiction that I'm aware of at least, even though this remediation will be done pursuant to 40 CFR § 761.62(a) Performance-based disposal for PCB bulk product waste (caulk) and 40 CFR § 761.61(b) Performance-based disposal for PCB remediation waste (concrete panels where PCBs have leached into the concrete from the caulk).

As we discussed by phone, I suggest ongoing testing to ensure the integrity of your containment area (i.e., negative air pressure). Also, your air monitoring action level should be 0.01 ug/m³ which equals a 10<sup>-6</sup> risk level. You confirmed that the 24-hour air sampling will be converted to show a time-weighted average over an 8- or 10-hour workday, forty hours per work week. You also understood that you would ensure any Transporters would have filed an EPA Form 7710-53 as such and have received an EPA TSCA PCB Identification Number.

We discussed and I stated I would get back with you on storage issues. Thomason Hospital as the generator of PCB bulk product waste and PCB remediation waste would not need an EPA TSCA PCB Identification Number for your manifest(s) as long as you ship your PCB waste for disposal within 30 days of the day the PCB waste is generated. Your temporary storage area will need to be marked as well as your waste containers (i.e., gondolas).

In addition to adhering to the marking, storage, and disposal requirements of 40 CFR Part 761, you must adhere to the recordkeeping requirements and maintain all of your records regarding this remediation activity for five years.

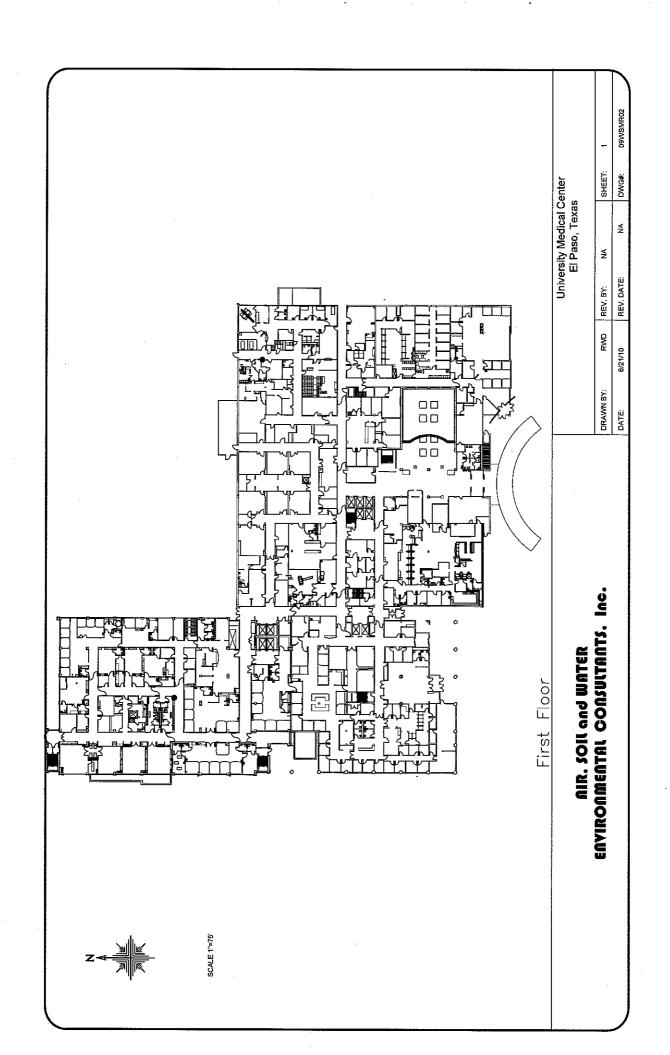
It is my understanding that the PCB bulk product waste will be sent to the Veolia Port Arthur, TX facility for incineration. The PCB remediation waste (concrete panels) will be decontaminated pursuant to 40 CFR § 761.79 Decontamination standards and procedures. Note: that your sampling of the concrete panels must be other than wipe samples as 79(b)(4) states "... as measured by a standard wipe test (§ 761.123) if the decontamination procedure is commenced within 72 hours of the initial spill." Since your going to dispose of these panels in a non-hazardous waste landfill, you can certainly do the wipe samples, but also do destructive sampling to show no PCBs at 1 ppm or greater.

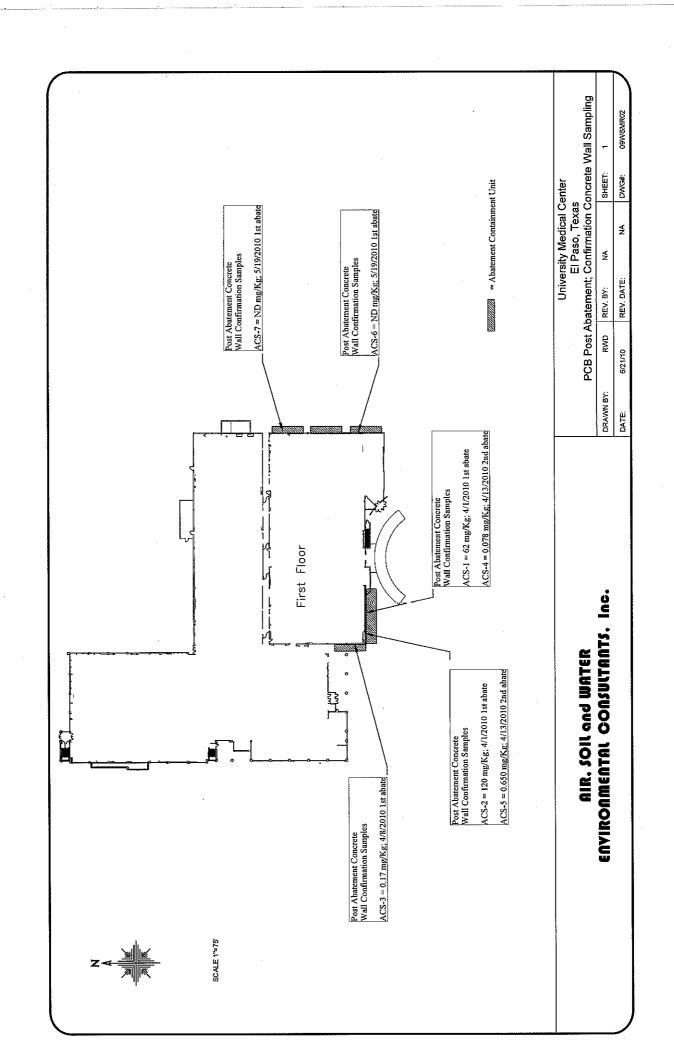
I think that concludes what I was to cover in this email. As we discussed yesterday by phone, there is no time constraint on when your remediation activities can begin. You stated that the contractors coming from California will be on site Monday, March 29, 2010.

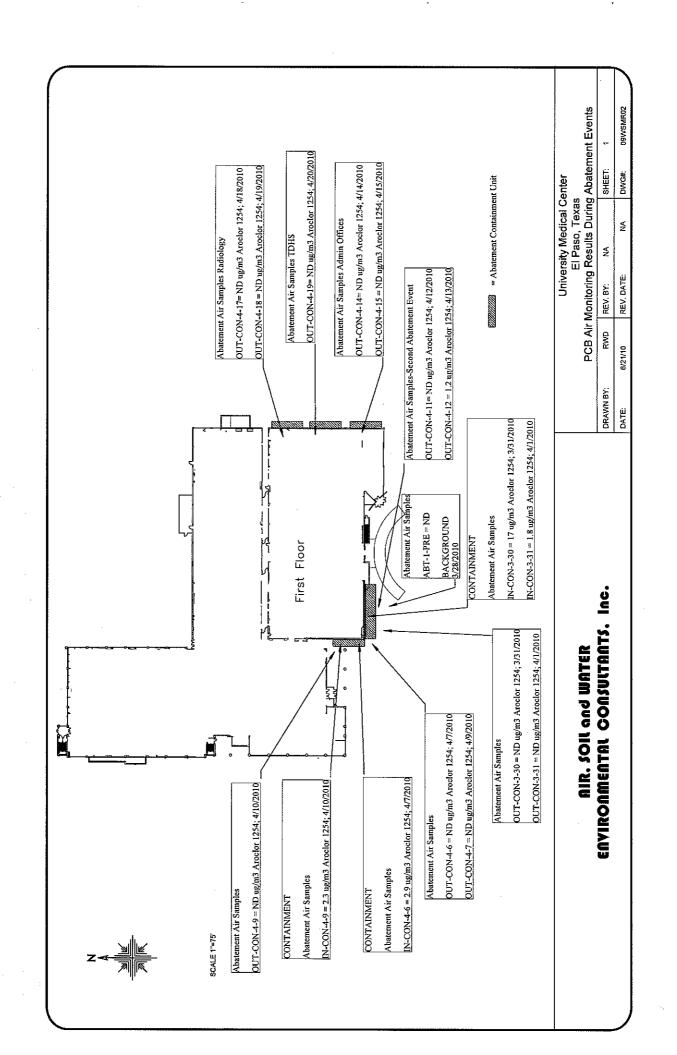
In closing let me reiterate, that for the future phases of the Thomason Hospital project, you can do various phases of the project pursuant to different authority (e.g., you can do this current emergency activity pursuant to 61(b) and then do another phase pursuant to 61(a) or 61(c)). Your contact in the future will be Jim Sales whom I've included on this email.

If I've forgotten anything or if something isn't clear, please do not hesitate to contact me. I'm going to be on a conference call starting in just a few minutes at 2:00 pm. my time.

Lou Roberts (6EN-HM) U.S. EPA Region 6 1445 Ross Avenue, Suite 1200 Dallas, TX 75202-2733 (214) 665-7579 Fax (214) 665-7446







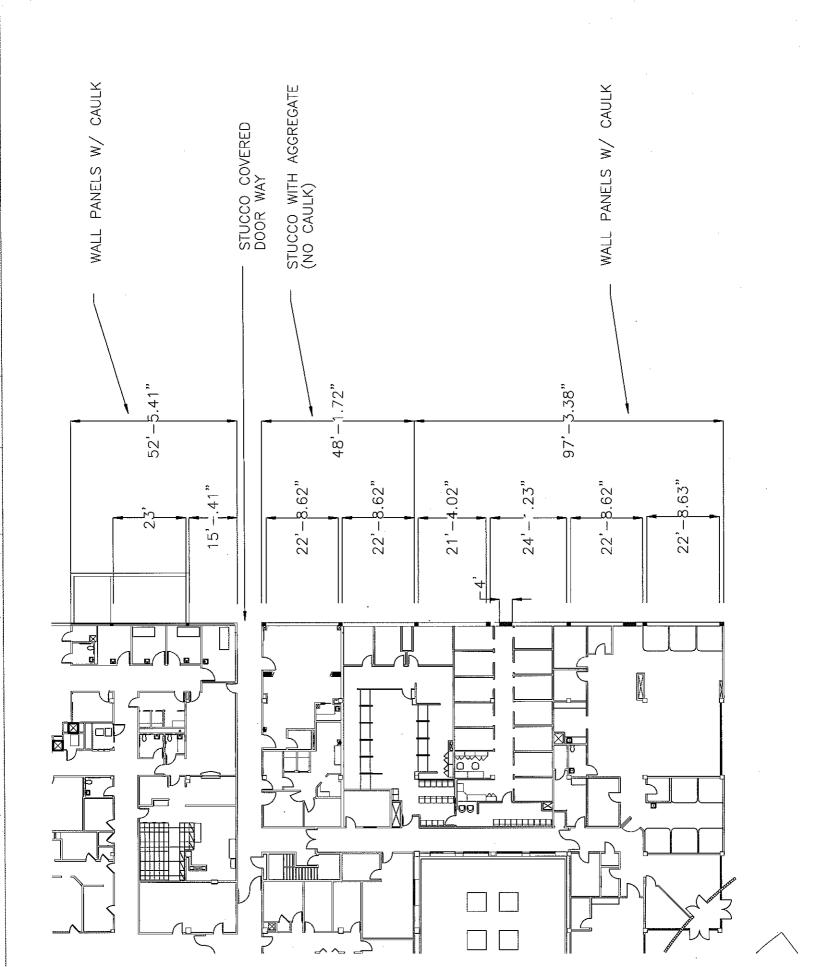




FIGURE 1. CONSTRUCTION OF CONTAINMENT UNIT SOUTH WALL



FIGURE 2. CONTAINMENT UNIT SOUTH WALL



FIGURE 3. SEALING BACKSIDE OF CONTAINMENT UNIT SOUTH WALL

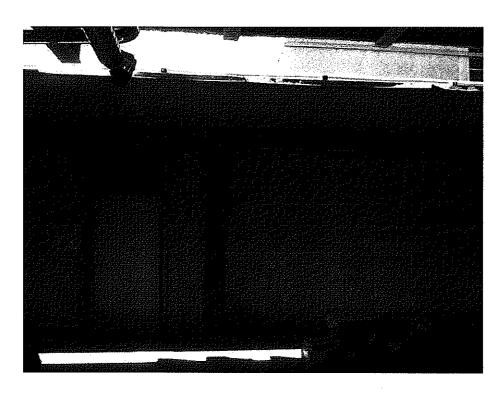


FIGURE 4. EAST WALL

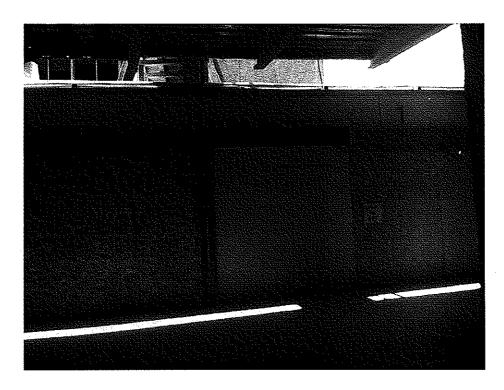


FIGURE 5. CONCRETE COVER FORMER ENTRANCE EAST WALL



FIGURE 6. NOT THE ORIGINAL WALL, AGGREGATE WITHIN STUCCO, EAST WALL



FIGURE 7. NO CAULKING AT EXPANSION JOINT; AGGREGATE WITHIN STUCCO, EAST WALL

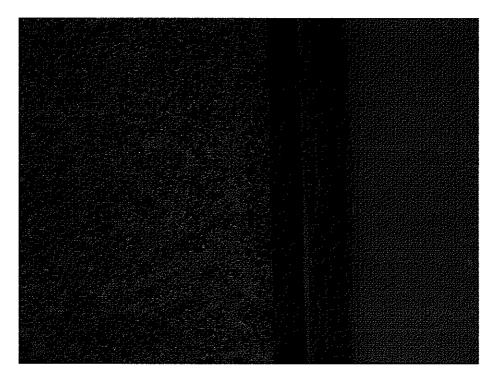


FIGURE 8. END OF THE ORIGINAL WALL, REMAINING SECTION OF WALL WAS RECONSTRUCTED, EAST WALL (NORTH SIDE)

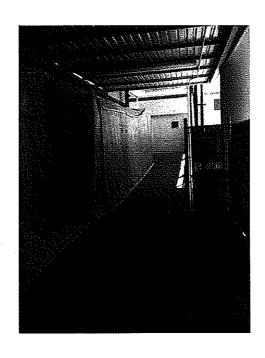


FIGURE 9. CONTAINMENT UNIT WEST WALL (SOUTH SECTION)

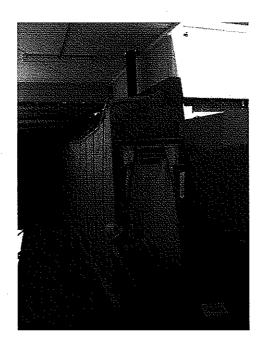


FIGURE 10. CONTAINMENT UNIT WEST WALL (SOUTH SECTION)

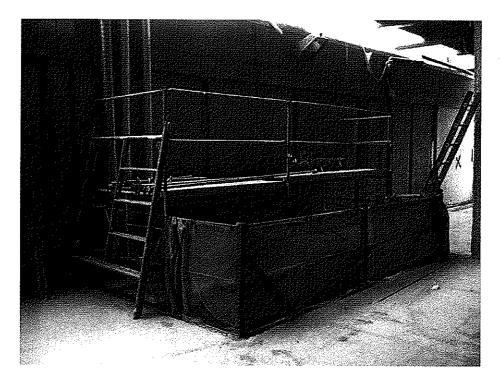


FIGURE 11. SCAFFOLDING OVER OPENING IN FLOOR EAST WALL (NORTH SECTION)



FIGURE 12. POST ABATEMENT, REMOVAL OF 3" SECTION ALONG EXPANSION JOINT EAST WALL



FIGURE 13. POST ABATEMENT, REMOVAL OF 3" SECTION AT COLUMN EAST WALL



FIGURE 14. ABATEMENT CONTAINMENT UNIT EAST WALL (SOUTH SECTION)



FIGURE 15. POST DATA LOGGER FOR NEGATIVE PRESSURE ON HEPA FILTER EAST WALL



FIGURE 16. PCB bulk product waste

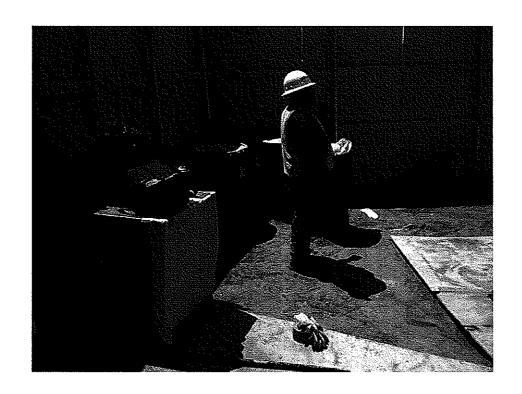


FIGURE 17. PCB remediation waste



FIGURE 18. ROLL OFF FOR PCB bulk product waste

University Medical Center

Table 1. Caulk and Exterior Wall Sampled

Sampling	Confirmation	Additional	Additional	Additional		Additional		Additional	00 Confirmation	Confirmation		Additional		Additional	Additional	00 Additional	Additional	Additional	Additional	00 Additional
Aroclor 1254 ug/Kg									65,000,000							22,000,000	QN	370	24,000	58,000,000
02/02/2010-		4							UMC-CLK-1						と の	UMC-CLK-2	UMC-CONC-I	UMC-CONC-2	UMC-CONC-3	UMC-CONC-4
Aroclor 1254 ug/Kg	27,500,000	Broken in transi	586	ON		1,860,000		118,000		10,700,000		1,050,000		ON	ON					
Alpha June 30, 2009	THTB-862-01	THTB-862-02	THTB-862-09	THTB-862-10		THTB-862-03		THTB-862-08		THTB-862-04		THTB-862-05		1HTB-862-06	THTB-862-07					
Aroclor 1254 ug/Kg	109,000,000				60,300,000		122,000,000			39,900,000			006'26							
Xenco 0506/30/2009	850-527-01				850-527-02		850-527-03			850-527-04	850-527-05		850-527-06							
Material Sampled	Caulk Sealant <sup>1</sup>	Wall Panel <sup>2</sup>	Caulk Sealant <sup>2</sup>	Wall Panel <sup>2</sup>	Caulk Sealant <sup>1</sup>	Wall Panel <sup>2</sup>	Caulk Sealant <sup>1</sup>	Wall Panel <sup>2</sup>	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>3</sup>	Wall Panel <sup>2</sup>	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>1</sup>	Wall Panel 4	Caulk Sealant <sup>1</sup>	Wall Panel 4	Wall Panel 4	Wall Panel 4	Caulk Sealant 3
Location Description	Zone B Hospital	Entrance (side)	Adjacent to	Transformer	Mechanical Room	Exterior	Howild to 1962	(Morth Side)			At Exterior Stairway		Window Still	Window Still	Wall Panel below sill	East of Heliport (South Side)		Zone B Hospital	Entrance (Front)	
Floor	Firet		to to	1011	Sarand	Jecond		쥰다			Seventh		Eighth	Elahth	9	Fourth		ָ נו		
Building Face	South		qtoN		T Sec	1697		West			West		South	Most		West		q.	<u>:</u> :	
Building	Tower	2	Tower		Tower	0.00	Tower				Tower			Tower		Tower		Tower		

Table 2. Rick Assessment

		[- · · · · ·			i	1	15
ure Pathway	Highest concern	Highest concern	Medium concern	Medium concern	Medium concern	Lower concern	Medium concern
Possible Exposure Pathway	High Exposure	Deteriorating Caulk Moderate exposure	Infrequent exposure	Infrequent exposure	Infrequent exposure	Infrequent exposure	Infrequent exposure
	Deteriorating Caulk	Deteriorating Caulk	Deteriorating Caulk	Deteriorating Caulk	Deteriorating Caulk	Intact caulk	Deteriorating Caulk
	Public, Dermal, ingestion or inhalation	Public, Dermal, ingestion or inhalation	Worker, Dermal, ingestion or inhalation	Worker, Dermal, ingestion or inhalation	Worker, Dermal,	ingestíon or inhalation	Worker, Dermal, ingestion or inhalation
Alpha June 30, 2009	THTB-862-01	THTB-862-09			THTB-862-04		-
Xenco Alpha May 27, 2009 June 30, 2009	850-527-01		850-527-02	850-527-03	850-527-04	850-527-05	850-527-06 THTB-862-06
Material Sampled	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>1</sup>	Caulk Sealant <sup>3</sup>	Caulk Sealant <sup>1</sup>
Location Description   Material Sample	Zone B Hospital Entrance	Adjacent to Transformer	Mechanical Room Exterior	East of Heliport		At Exterior ordinacy	Window Still
Floor	First	First	Second	Fourth	1	מאַ	Eighth
Building Face	South	North	East	West		icam	South
Building	Tower	Tower	Tower	Tower	·	a anon	Tower

 $<sup>^1</sup>$  Caulk Sealant=weather sealant located between wall panels; White Caulk, Appears to be the original caulk

2 of 6

 $<sup>^2</sup>$  Wall Panel=Pre-cast tilt up exterior panel consisting of 1" crushed river gravel in a concrete matrix (Expansion Joint)

<sup>&</sup>lt;sup>3</sup> Clear Caulk, Appears to be caulking repairs <sup>4</sup> Wall Panel= exterior panel with a stucco cover

<sup>&</sup>lt;sup>5</sup> defined at 40 CFR § 761.3. <sup>6</sup> defined at 40 CFR § 761.3.

Table. 3 Wipe Sampling

EPA Method	8082	8082
Dilution Factor EPA Method	П	T
Date Collected	2/10/2010	2/10/2010
Aroclor 1254 ug/WIPE	QN	QN
Material MRL ug/WIPE	0.5	5.0
Material Sampled	Surface of Air Duct	Surface of Air Duct
Sample Name	UMC-WP-I	UMC-WP-2
Location Description	Air Intake Duct	Air Intake Duct
Floor	First	First
Area	Corridor (South Side)	Corridor (North Side)
Building	Tower	Tower

able.4 Air	Table.4 Air Sampling									:		
Building	Area	Floor	Building Area Floor Location Description Sample Name	Sample Name	Material Sampled	MRL ng/Cartridge	Arocior 1254 ng/Cartridge	Date Collected MRL ug/m3	MRL ug/m3	Aroclor 1254 ug/m3	Volume Sampled m3	EPA Method
Tower	Maternity Third	Third	Nurse Station Above common desk	UMC-1	Ambient Air	005	ON	1/30/2010	0.18	ON	2.8445	10-A
Tower	Tower Surgical Fifth	Fifth	Nurse Station Above common desk	UMC-2	Ambient Air	005	QN	1/31/2010	0.18	QN	2.8383	10-A
Tower	Pediatrics	Seventh	Tower Pediatrics Seventh Break room / file room	UMC-3	Ambient Air	200	880	2/1/2010	0.19	0.33	2.6619	10-A

4 of 6

Table,4-a	Table, 4-a Air Sampling (Abatement)	batement		Reported for Aroclor 1254 (only	y Aroclor repon	(only Aroclor reported with detectable quantities)	ble quantities)					
Building	Area	Floor	Location Description	Sample Name	Material Sampled	MRL ng/Cartridge	Aroclor 1254 ng/Cartridge	Date Collected	MRL ug/m3	Aroclor 1254 ug/m3	Volume Sampled m3	EPA Method
Tower	Exterior of New ER Office	First	Abatement New ER Pre- Abatement Air Sample	ABT-1-PRE	Ambient Air	200	ND	3/28/2010	0.17	ND	2.955	10-A
Tower	Exterior of New ER Office	First	Abatement -South Wall (Inside Containment)	IN-CON-3-30	Ambient Air	200	55,000	3/31/2010	0.15	17	3.2737	10-A
Tower	Exterior of New ER Office	First	Abatement- South Wall (Outside Containment)	OUT-CON-3-30	Ambient Air	200	ND	3/31/2010	0.15	ND	3.2615	10-A
Tower	Exterior of New ER Office	First	Abatement- South Wall (Outside Containment)	OUT-CON-3-31	Ambient Air	200	ND	4/1/2010	0.15	ND	3.273	10-A
Tower	Exterior of New ER Office	First	Abatement -South Wall (Inside Containment)	IN-CON-3-31	Ambient Air	200	5,700	4/1/2010	0.16	1.8	3.2049	10-A
Tower	Exterior of New ER Office	First	Abatement- West Wall South (Outside Contain)	OUT-CON-4-6	Ambient Air	200	ND	4/7/2010	0.16	ND	3.1921	10-A
Tower	Exterior of New ER Office	First	Abatement -West Wall South (Inside Contain)	IN-CON-4-6	Ambient Air	200	9,300	4/7/2010	0.16	2.9	3.2232	10-A
Tower	Exterior of New ER Office	First	Abatement -West Wall South (Inside Contain)	IN-CON-4-7	Ambient Air	Canceled	Canceled	4/9/2010	Canceled	Canceled		10-A
Tower	Exterior of New ER Office	First	Abatement- West Wall South (Outside Contain)	OUT-CON-4-7	Ambient Air	500	ND	4/9/2010	0.17	ND	2.9712	10-A
Tower	Exterior of New ER Office	First	Abatement -West Wall North (Inside Contain)	IN-CON-4-9	Ambient Air	200	7,200	4/10/2010	0.16	2.3	3.2024	10-A
Tower	Exterior of New ER Office	First	Abatement- West Wall North (Outside Contain)	OUT-CON-4-9	Ambient Air	200	ND	4/10/2010	0.17	ND	2.9804	10-A
Tower	Exterior of New ER Office	First	Abatement- West Wall South (Outside Contain)	OUT-CON-4-11	Ambient Air	200	ON	4/12/2010	0.15	ON	3.291	10-A
Tower	Exterior of New ER Office	First	Abatement- West Wall South (Outside Contain)	OUT-CON-4-12	Ambient Air	200	4,100	4/13/2010	0.15	1.2	3.3059	10-A
Tower	Exterior of Admin Office	First	Abatement -Admin Office (Outside Containment)	OUT-CON-4-14	Ambient Air	200	ND	4/14/2010	0.16	ON	3.174	10-A
Tower	Exterior of Admin Office	First	Abatement -Admin Office (Outside Containment)	OUT-CON-4-15	Ambient Air	200	ND	4/15/2010	0.17	ON	3.0083	10-A
Tower	Exterior of RAD. Ultrasoud Rm.	First	Abatement-Radiology (Outside Contain)	OUT-CON-4-17	Ambient Air	200	ND	4/18/2010	0.16	ON	3.1826	10-A
Tower	Exterior of RAD. Ultrasoud Rm.	First	Abatement-Radiology (Outside Contain)	OUT-CON-4-18	Ambient Air	200	ND	4/19/2010	0.16	ND	3.1866	10-A
Tower	Exterior of TDHS Office	First	Abatement -TDHS Office (Outside Containment)	OUT-CON-4-19	Ambient Air	500	QN	4/20/2010	0.17	ND	2.9665	10-A

5 of 6

Table.4-b	Table.4-b Wall Concrete Confirmation	Confirmati	ion Samples (Post-Abatement) left in place	ent) left in place	Reported fo	r Aroclor 1254 (	Reported for Aroclor 1254 (only Aroclor reported with detectable quantities)	with detectable q	uantities)	
Building	Area	Floor	Location Description	Sample Name	Material Sampled	MRL	Aroclor 1254	Date Collected Dilution Factor	Dilution Factor	EPA Method
Prior to re	Prior to removal of 3" of concrete fro	concrete fi	rom edge of expansion joint	nt			mg/Kg			
Tower	Exterior of New	Firet	South Wall	ACS-1	Concrete	0 6	63	01/1/2010	901	FPA 3541 & 8082
5	ER Office	1011	(East Section)		conclusion.	7	1	44,500	2	
Toutor	Exterior of New	+0.6	South Wall	7 Y V	Concrete	00	120	0106/1/7	100	FDA 35/41 & 8087
10 AC	ER Office	ISIL	(West Section)	7-07	כחורובוב	6.5	140	4/ 1/ 2010	100	7000 X TACE V 17
After rem	After removal of 3" of concrete from	ncrete fror	m edge of expansion joint				mg/Kg	Same and the same	The second second	
Tomor	Exterior of New	t	West Wall	A/C.2	Concrete	6600	71.0	0106/8/10		EDA 35.41 8. 8082
i owe	ER Office	1511	(South Section)	ALQ"3	CONCIONE	0.022	U.1./	4, 6/ 2010	<b>⊣</b>	LL 7 3341 & 6062
Towns	Exterior of New	+0410	West Wall	V 3/4	Concrete	1/30 0	8200	0102/21/0	-	FDA 35/11 8, 8082
awo.	ER Office	16117	(North Section)	+554	concrete	0.004	0.070	7, 13, 2010	-	7007
Townst	Exterior of New	Circt	South Wall	97C-5	Concrete	6500	0.650	0102/21/7		FPA 3541 & 8082
2	ER Office	16111	(East Section)			2000	0.000	7, 22, 2020	-	
Towns	Exterior of	Eire+	East Wall	Arc.6	Concrete	2600	CN	5/19/2010	<b>,</b>	FPA 3541 & 8082
30	Admin Office	1611	(South Section)	200		170.0		J 40) 40±0	•	
Tomor	Exterior of	tiert	East Wall	7.374	Concrete	8000	CN	5/19/2010	ţ	FDA 35/41 & 8082
i owei	Radiology	Ē	(North Section)	,-C-1	כחוני ביב	0.0.0	Š	01 12) CT 15	7	י אחיים אי דרכי איזן

Target clean-up level is less than 1.0 mg/Kg All remaining in-place concrete walls after abatement meets clean up levels

9 Jo 9



March 8, 2010

Analytical Report for Service Request No: K1001091

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Ave El Paso, TX 79902

**RE:** University Medical Center

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on February 05, 2010. For your reference, these analyses have been assigned our service request number K1001091.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Pradeep Divvela Project Chemist

PD/lb

## Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

#### Inorganic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

  \*\*DOD-QSM 4.1 definition\*\*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- O See case narrative. One or more quality control criteria was outside the limits.

#### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### Organic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

  DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- O See case narrative. One or more quality control criteria was outside the limits.

#### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

# Columbia Analytical Services, Inc. Kelso, WA State Certifications, Accreditations, and Licenses

Program	Number	
Alaska DEC UST	UST-040	
Arizona DHS		
	AZ0339	
Arkansas - DEQ California DHS	88-0637	
<u></u>	2286	
Colorado DPHE	-	
Florida DOH	E87412	<u></u>
Hawaii DOH	-	
Idaho DHW	-	
Indiana DOH	C-WA-01	
Louisiana DEQ	3016	
Louisiana DHH	LA050010	
Maine DHS	WA0035	
Michigan DEQ	9949	
Minnesota DOH	053-999-368	
Montana DPHHS	CERT0047	
Nevada DEP	WA35	
New Jersey DEP	WA005	
New Mexico ED	-	
North Carolina DWQ	605	_
Oklahoma DEQ	9801	
Oregon - DHS	WA200001	$\neg$
South Carolina DHEC	61002	
Utah DOH	COLU	$\dashv$
Washington DOE	C1203	$\dashv$
Wisconsin DNR	998386840	$\dashv$
Wyoming (EPA Region 8)	-	







Client:

Air, Soil & Water Environmental, Inc.

Service Request No.:

K1001091

Project:

University Medical Center

Date Received:

02/05/10

Sample Matrix:

Wipe/Misc. Solid

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

### Sample Receipt

Eight samples were received for analysis at Columbia Analytical Services on 02/05/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Samples 03, 04, 05 and 06 could not be prepped/analyzed because of insufficient sample mass available. Client had been notified of this discrepancy.

### PCB Aroclors by EPA Method 8082 - Misc. Solid

### Surrogate Exceptions:

The recovery of the surrogate Decachlorobiphenyl in sample UMC-WP-1 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

The control criteria for Decachlorobiphenyl in samples UMC-CLK-1 and UMC-CLK-2 were not applicable. The analysis of the samples required a dilution, which resulted in a surrogate concentration below the reporting limit. No further corrective action was appropriate.

### **Elevated Detection Limits:**

Samples UMC-CLK-1 and UMC-CLK-2 required dilution due to the presence of elevated levels of target analyte. The reporting limits were adjusted to reflect the dilution.

### Sample Notes and Discussion:

The samples in this data set appeared to have been subjected to environmental stresses such as weathering, causing pattern degradation and changing the peak ratios. When pattern degradation occurs, correct identification and quantitative analysis of the individual Aroclors can be subjective. Care was taken to report the Aroclor with the best pattern match. Aroclor 1254 was reported for this data set.

Approved by	Di	.03  08 t	Þ
- Tr. P		***************************************	****

### PCB Aroclors by EPA Method 8082 - Wipe

Surrogate Exceptions:

The recovery of the surrogate Decachlorobiphenyl in sample UMC-WP-1 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

No other anomalies associated with the analysis of these samples were observed.

	De	03/07/10
Approved by	· **	Date

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

ND U

ND U

ND U

Project:

University Medical Center

Sample Matrix:

Wipe

Service Request: K1001091

**Date Collected:** 02/02/2010

Date Received: 02/05/2010

### Polychlorinated Biphenyls(PCBs)

Sample Name: Lab Code:

UMC-WP-I

Units: ug/WIPE Basis: Wet

KWG1001204

KWG1001204

**Extraction Method:** 

Analyte Name

Aroclor 1016

Aroclor 1221

Aroclor 1232

Aroclor 1242

Aroclor 1248

Aroclor 1254

Aroclor 1260

K1001091-001

Level: Low

Analysis Method:

8082

EPA 3541

Dilution Date Date Extraction Result O MRL **Factor** Extracted Analyzed Lot Note KWG1001204 ND U 0.50 1 02/10/10 02/12/10 ND U KWG1001204 1.0 02/10/10 02/12/10 1 KWG1001204 ND U 0.50 1 02/10/10 02/12/10 ND U 0.50 1 02/10/10 02/12/10 KWG1001204 KWG1001204

02/10/10

02/10/10

02/10/10

02/12/10

02/12/10

02/12/10

1

1

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Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	65	70-130	02/12/10	Outside Control Limits	

0,50

0.50

0.50

Comments:

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Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Wipe

Service Request: K1001091

**Date Collected:** 02/02/2010

**Date Received:** 02/05/2010

### Polychlorinated Biphenyls(PCBs)

Sample Name: Lab Code: UMC-WP-2 K1001091-002

Extraction Method:

EPA 3541

Analysis Method:

8082

Units: ug/WIPE

Basis: Wet

Level: Low

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND U	0.50	1	02/10/10	02/12/10	KWG1001204	
Aroclor 1221	ND U	1.0	1	02/10/10	02/12/10	KWG1001204	
Aroclor 1232	ND U	0.50	1	02/10/10	02/12/10	KWG1001204	
Aroclor 1242	ND U	0.50	l l	02/10/10	02/12/10	KWG1001204	
Aroclor 1248	ND U	0.50	1	02/10/10	02/12/10	KWG1001204	
Aroclor 1254	ND U	0.50	1	02/10/10	02/12/10	KWG1001204	
Aroclor 1260	ND U	0.50	1	02/10/10	02/12/10	KWG1001204	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	73	70-130	02/12/10	Acceptable	

Comments:

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Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1001091

**Date Collected:** 02/02/2010

**Date Received:** 02/05/2010

### Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

UMC-CLK-1 K1001091-007 Units: mg/Kg Basis: Wet

**Extraction Method:** 

EPA 3541

Level: Low

Analysis Method:

8082

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	7700	50000	02/17/10	02/26/10	KWG1001464	
Aroclor 1221	ND	U	16000	50000	02/17/10	02/26/10	KWG1001464	
Aroclor 1232	ND	U	7700	50000	02/17/10	02/26/10	KWG1001464	
Aroclor 1242	ND	U	7700	50000	02/17/10	02/26/10	KWG1001464	
Aroclor 1248	ND	U	7700	50000	02/17/10	02/26/10	KWG1001464	
Aroclor 1254	65000	D	7700	50000	02/17/10	02/26/10	KWG1001464	
Aroclor 1260	ND	U	7700	50000	02/17/10	02/26/10	KWG1001464	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	0 .	35-133	02/26/10	Outside Control Limits	

Comments:

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1001091

**Date Collected:** 02/02/2010

**Date Received:** 02/05/2010

### Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

UMC-CLK-2 K1001091-008

Extraction Method:

EPA 3541

Units: mg/Kg Basis: Wet

Level: Low

Analysis Method: 8082

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND U	1700	10000	02/17/10	02/26/10	KWG1001464	
Aroclor 1221	ND U	3400	10000	02/17/10	02/26/10	KWG1001464	
Aroclor 1232	ND U	1700	10000	02/17/10	02/26/10	KWG1001464	
Aroclor 1242	ND U	1700	10000	02/17/10	02/26/10	KWG1001464	
Aroclor 1248	ND U	1700	10000	02/17/10	02/26/10	KWG1001464	
Aroclor 1254	<b>22000</b> D	1700	10000	02/17/10	02/26/10	KWG1001464	
Aroclor 1260	ND U	1700	10000	02/17/10	02/26/10	KWG1001464	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	890	35-133	02/26/10	Outside Control Limits

Comments:

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Merged

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project: Sample Matrix: University Medical Center

Wipe

Service Request: K1001091

Date Collected: NA

Date Received: NA

### Polychlorinated Biphenyls(PCBs)

Sample Name:

Method Blank

Lab Code:

KWG1001204-3

Extraction Method: Analysis Method: EPA 3541 8082 Units: ug/WIPE
Basis: Wet

Level: Low

Dilution Date Date Extraction MRL **Factor** Extracted Analyzed Lot Note **Analyte Name** Result Q 02/12/10 KWG1001204 02/10/10 Aroclor 1016 ND U 0.50 KWG1001204 Aroclor 1221 1.0 1 02/10/10 02/12/10 ND U 0.50 1 02/10/10 02/12/10 KWG1001204 Aroclor 1232 ND U KWG1001204 1 02/12/10 Aroclor 1242 ND U 0.50 02/10/10 KWG1001204 Aroclor 1248 ND U 0.50 1 02/10/10 02/12/10 KWG1001204 1 02/10/10 02/12/10 ND U 0.50 Aroclor 1254 KWG1001204 02/10/10 02/12/10 Aroclor 1260 ND U 0.50 1

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	78	70-130	02/12/10	Acceptable	

 ${\bf Comments:}$ 

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Form 1A - Organic 11

SuperSet Reference:

RR111285

Page 1 of 1

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1001091

Date Collected: NA

Date Received: NA

### Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

Method Blank KWG1001464-4

Extraction Method: EPA 3541 Analysis Method:

8082

Units: mg/Kg Basis: Wet

Level: Low

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND U	0.082	1	02/17/10	02/26/10	KWG1001464	
Aroclor 1221	ND U	0.17	1	02/17/10	02/26/10	KWG1001464	
Aroclor 1232	ND U	0.082	1	02/17/10	02/26/10	KWG1001464	
Aroclor 1242	ND U	0.082	1	02/17/10	02/26/10	KWG1001464	
Aroclor 1248	. ND U	0.082	1	02/17/10	02/26/10	KWG1001464	
Aroclor 1254	ND U	0.082	1	02/17/10	02/26/10	KWG1001464	
Aroclor 1260	ND U	0.082	1	02/17/10	02/26/10	KWG1001464	,,

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	68	35-133	02/26/10	Acceptable	

Comments:

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Page

] of ] .

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Wipe

Service Request: K1001091

**Surrogate Recovery Summary** Polychlorinated Biphenyls(PCBs)

**Extraction Method:** Analysis Method:

EPA 3541

8082

Units: PERCENT

Level: Low

Sample Name	Lab Code	<u>Sur1</u>
UMC-WP-1	K1001091-001	65 *
UMC-WP-2	K1001091-002	73
UMC-CLK-I	K1001091-007	0D#
UMC-CLK-2	K1001091-008	890 D #
Method Blank	KWG1001204-3	78
Method Blank	KWG1001464-4	68
Batch QC	K1001280-001	75
Batch QCMS	KWG1001464-1	80
Batch QCDMS	KWG1001464-2	80
Lab Control Sample	KWG1001204-1	82
Lab Control Sample Dup	KWG1001204-2	78
Lab Control Sample	KWG1001464-3	69

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl

35-133

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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Form 2A - Organic

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13

SuperSet Reference: RR111285

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project: Sample Matrix:

Solid

University Medical Center

**Date Extracted:** 02/17/2010

Service Request: K1001091

Date Analyzed: 02/26/2010

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs)

Sample Name:

Batch QC

Lab Code:

K1001280-001

Units: mg/Kg Basis: Wet

Extraction Method:

EPA 3541

Level: Low

Analysis Method:

8082

Extraction Lot: KWG1001464

Batch QCMS KWG1001464-1

Batch QCDMS KWG1001464-2

	Sample	Matrix Spike			Duplicate Matrix Spike			%Rec		RPD
Analyte Name	Result	Result	Expected	%Rec	Result	Expected	%Rec		RPD	Limit
Aroclor 1016	ND	0.485	0.811	60	0.409	0.824	50	27-174	17	40
Aroclor 1260	ND	0.696	0.811	86	0.566	0.824	69	20-185	21	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3A - Organic 14

Page

SuperSet Reference: RR111285

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Wipe

Service Request: K1001091 **Date Extracted:** 02/10/2010

Date Analyzed: 02/12/2010

Lab Control Spike/Duplicate Lab Control Spike Summary Polychlorinated Biphenyls(PCBs)

Extraction Method: EPA 3541

Analysis Method:

8082

Units: ug/WIPE

Basis: Wet

Level: Low

Extraction Lot: KWG1001204

Lab Control Sample

KWG1001204-1

Lab Control Sample Dup

KWG1001204-2

	<del></del> -	Lab Control Spike Dup			Suplicate Lab Control Spike			%Rec		
Analyte Name	Result	Expected	%Rec	Result	Expected	%Rec	Limits	RPD	RPD Limit	
Aroclor 1016	9.36	10.0	94	8.34	10.0	83	70-130	12	40	
Aroclor 1260	9.30	10.0	93	8.47	10.0	85	70-130	9	40	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

SuperSet Reference: RR111285

1 of 1

15

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1001091 Date Extracted: 02/17/2010

**Date Analyzed:** 02/26/2010

Lab Control Spike Summary Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541

Analysis Method:

8082

Units: mg/Kg

Basis: Wet

Level: Low

Extraction Lot: KWG1001464

Lab Control Sample KWG1001464-3

Lab Control Spike %Rec Limits **Analyte Name** Result Expected %Rec Aroclor 1016 0.616 1.00 62 48-121 Aroclor 1260 0.647 1.00 65 53-129

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

# 1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222x07 • FAX (360) 636-1068 Columbia Analytical Services\*

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REMARKS Sn V Zn Hg Zu (CIRCLE ONE Su < Date/Time RECEIVED BY: Firm Sr.1 F ത് တို Se Š K Ag Na WI NORTHWEST OTHER: Printed Name K Ag XOV 4 Signature 7 y Mg Mn Mo Ni Fe Pb Mg Mn Mo Ni P Date/Time S e) Li RELINQUISHED BY: S Ö ¥ င် Ö INDICATE STATE HYDROCARBON PROCEDURE: රි Total Metals: Al As Sb Ba Be B Ca Cd Co Ö Printed Name Be B Ca SPECIAL INSTRUCTIONS/COMMENTS: Signature Circle which metals are to be analyzed Вя S Dissolved Metals: Al As RECEIVED BY: CONTAINERS UNIVERTY MEDICAL CENTER NUMBER OF TURNAROUND REQUIREMENTS Standard (10-15 working days) SO SECALION A Pener James INVOICE INFORMATION Requested Report Date TIME LABI.D. MATRIX 日文 911151C Provide FAX Results 24 hr. 5 Day 27-10/22 SED 12 28 22-102:30 17:41 X 3.00 Bill To: 3.3 P,O,# NAME STATES ASC. Report Dup., MS, MSD as 1 N 1015 SHED BY: 1. Routine Report: Method IV. CLP Deliverable Report REPORT REQUIREMENTS III. Data Validation Report OREN (includes all raw data) Blank, Surrogate, as ア・シ・・・・スク プラク・ファン・ファン・カ し、ログラス プライ スタゲーム MC. CAME-2 /MC-CLK-1 一人の一つなべ /BUC-12Prequired required V. EDD PROJECT MANAGER COMPANY/ADDRESS SAMPLE PROJECT NUMBER PROJECT NAME MAR ADDRES CITY/STATE/ZIP SAMPLERIS

RCOC #1 07/09

# Columbia Analytical Services, Inc. Cooler Receipt and Preservation Form

PC\_//

Client / Project: ASW	Service Request K10 () (1)91
Received: 2/5/10 Opened: 2/5/10	By: for
1. Samples were received via? Mail Fed Ex UPS	DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Gooter Box	Envelope OtherNA
3. Were <u>custody seals</u> on coolers? NA N	If yes, how many and where? / fro A
If present, were custody seals intact? N	If present, were they signed and dated?
Cooler Temp Thermometer Cooler/ Temp °C Blank °C ID ID	NA Tracking Number NA Filed
2,3 7,9 259	12665 F900119893862
7. Packing material used Inserts Baggies Bubble Wrap	Gel Packs) Wet Ice Sleeves Other
8. Were custody papers properly filled out (ink, signed, etc.)?	na @ n
9. Did all bottles arrive in good condition (unbroken)? Indicate	in the table below. NA 💋 N
10. Were all sample labels complete (i.e analysis, preservation, et	
11. Did all sample labels and tags agree with custody papers? <i>Inc.</i>	
<ul><li>12. Were appropriate bottles/containers and volumes received for</li><li>13. Were the pH-preserved bottles (see SMO GEN SOP) received at</li></ul>	
<ul><li>13. Were the pH-preserved bottles (see SMO GEN SOP) received at</li><li>14. Were VOA vials received without headspace? Indicate in the</li></ul>	
15. Was C12/Res negative?	table below. NA Y N
Sample ID on Bottle Sample ID o	n COC Identified by;
	· ·
	· · · · · · · · · · · · · · · · · · ·
Bottle Count Out of Head- Sample ID Bottle Type Temp space	Volume Reagent Lot Broke pH Reagent added Number Initials Time
Notes, Discrepancies, & Resolutions: Recovered Zx	40ml VOA; with wipes - No identification
on lakels. (Trip Alanks ?) or	extra un-veed containers?
	Extra Director Charles



March 11, 2010

Analytical Report for Service Request No: K1002094

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Avenue El Paso, TX 79902

RE: University Medical Center

Dear Robert:

Enclosed are the results of the rush samples submitted to our laboratory on March 08, 2010. For your reference, these analyses have been assigned our service request number K1002094.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Pradeep Divvela Project Chemist

PD/rh

Page 1 of \_\_\_\_\_\_\_

### Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

### **Inorganic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- The result is an estimated value that was detected outside the quantitation range.
- The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- O See case narrative. One or more quality control criteria was outside the limits.

### **Organic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

### Additional Petroleum Hydrocarbon Specific Qualifiers

- $\, F \,$  The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

# Columbia Analytical Services, Inc. Kelso, WA State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-







Client:

Air, Soil & Water Environmental, Inc. (ASW)

Service Request No.:

K1002094

Project: Sample Matrix: University Medical Center Misc. Solid Date Received:

03/08/10

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

### Sample Receipt

Four solid samples were received for analysis at Columbia Analytical Services on 03/08/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at room temperature upon receipt at the laboratory.

### PCB Aroclors by EPA Method 8082

### Surrogate Exceptions:

The control criteria for Decachlorobiphenyl in sample UMC-CONC-4 were not applicable. The analysis of the sample required a dilution, which resulted in a surrogate concentration below the reporting limit. No further corrective action was appropriate.

### **Elevated Detection Limits:**

Samples UMC-CONC-3 and UMC-CONC-4 required dilution due to the presence of elevated levels of target analytes. A semi-quantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution. The reporting limits were adjusted to reflect the dilution.

### Sample Notes and Discussion:

The samples in this data set appeared to have been subjected to environmental stresses such as weathering, causing pattern degradation and changing the peak ratios. When pattern degradation occurs, correct identification and quantitative analysis of the individual Aroclors can be subjective. Care was taken to report the Aroclor with the best pattern match. Aroclor 1254 was reported for this data set.

No other anomalies associated with the analysis of these samples were observed.

		03/11/10
pproved by	Date	

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1002094

Date Collected: 03/05/2010

**Date Received:** 03/08/2010

### Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

UMC-CONC-1 K1002094-001

Units: mg/Kg Basis: Wet

**Extraction Method:** 

EPA 3550B

Level: Low

Analysis Method:

8082

				Dilution	Date	Date	Extraction	
Analyte Name	Result	Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND	U	0.76	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1221	ND	U	1.6	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1232	ND	U	0.76	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1242	ND	U	0.76	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1248	ND	U.	0.76	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1254	ND	U	0.76	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1260	ND	U	0.76	1	03/09/10	03/11/10	KWG1001977	

Surrogaté Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	119	35-133	03/11/10	Acceptable	

Comments:

SuperSet Reference:

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1002094

Date Collected: 03/05/2010

**Date Received:** 03/08/2010

### Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

UMC-CONC-2

Extraction Method: EPA 3550B

K1002094-002

**Analysis Method:** 

8082

Units: mg/Kg Basis: Wet

Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	0.26	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1221	ND U	0.52	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1232	ND U	0.26	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1242	ND U	0.26	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1248	ND U	0.26	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1254	0.37	0.26	1	03/09/10	03/11/10	KWG1001977	
Aroclor 1260	ND U	0.26	1	03/09/10	03/11/10	KWG1001977	

Surrogate Name	%Rec	Centrel Limits	Date Analyzed	Note	
Decachlorobiphenyl	96	35-133	03/11/10	Acceptable	

Comments:	

Page

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1002094

Date Collected: 03/05/2010

**Date Received:** 03/08/2010

### Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code: UMC-CONC-3 K1002094-003

Units: mg/Kg Basis: Wet

**Extraction Method:** 

EPA 3550B

Level: Low

Analysis Method:

8082

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	1.5	10	03/09/10	03/11/10	KWG1001977	
Aroclor 1221	ND U	3.0	10	03/09/10	03/11/10	KWG1001977	
Arocior 1232	ND U	1.5	10	03/09/10	03/11/10	KWG1001977	
Aroclor 1242	ND U	1.5	10	03/09/10	03/11/10	KWG1001977	
Aroclor 1248	ND U	1.5	10	03/09/10	03/11/10	KWG1001977	
Aroclor 1254	<b>24</b> D	1.5	10	03/09/10	03/11/10	KWG1001977	
Aroclor 1260	ND U	1.5	10	03/09/10	03/11/10	KWG1001977	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	131	35-133	03/11/10	Acceptable	

Comments:

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8

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1002094

Date Collected: 03/05/2010

**Date Received:** 03/08/2010

### Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code: UMC-CONC-4 K1002094-004

**Extraction Method:** 

EPA 3550B

Analysis Method:

8082

Units: mg/Kg Basis: Wet

Level: Low

Analyte Name	Result	0	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND		6400	50000	03/09/10	03/11/10	KWG1001977	·
Aroclor 1221	ND	_	13000	50000	03/09/10	03/11/10	KWG1001977	
Aroclor 1232	ND	Ū	6400	50000	03/09/10	03/11/10	KWG1001977	
Aroclor 1242	ND	U	6400	50000	03/09/10	03/11/10	KWG1001977	
Aroclor 1248	ND	U	6400	50000	03/09/10	03/11/10	KWG1001977	
Aroclor 1254	58000	D	6400	50000	03/09/10	03/11/10	KWG1001977	
Aroclor 1260	ND	U	6400	50000	03/09/10	03/11/10	KWG1001977	· · · · · · · · · · · · · · · · · · ·

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	0 .	35-133	03/11/10	Outside Control Limits

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1002094

Date Collected: NA

Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

Method Blank KWG1001977-3

Units: mg/Kg Basis: Wet

**Extraction Method:** 

EPA 3550B

**Analysis Method:** 

8082

Level: Low

				Dilution	Date	Date	Extraction	
Analyte Name	Result	Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND	U	0.10	1	03/09/10	03/10/10	KWG1001977	
Aroclor 1221	ND	U	0.20	1	03/09/10	03/10/10	KWG1001977	
Aroclor 1232	ND	U	0.10	1	03/09/10	03/10/10	KWG1001977	
Aroclor 1242	ND	U	0.10	1	03/09/10	03/10/10	KWG1001977	
Aroclor 1248	ND	U	0.10	1	03/09/10	03/10/10	KWG1001977	
Aroclor 1254	ND	U	0.10	1	03/09/10	03/10/10	KWG1001977	
Aroclor 1260	ND	U	0.10	ī	03/09/10	03/10/10	KWG1001977	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	118	35-133	03/10/10	Acceptable	

Comments:

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QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1002094

**Surrogate Recovery Summary** Polychlorinated Biphenyls (PCBs)

**Extraction Method:** 

EPA 3550B

Analysis Method:

8082

Units: PERCENT

Level: Low

Sample Name	Lab Code	Sur1
UMC-CONC-1	K1002094-001	119
UMC-CONC-2	K1002094-002	96
UMC-CONC-3	K1002094-003	131 D
UMC-CONC-4	K1002094-004	0D#
Method Blank	KWG1001977-3	118
Lab Control Sample	KWG1001977-1	89
Duplicate Lab Control Sample	KWG1001977-2	98

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl

35-133

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) Indicate the control criteria is not applicable.

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Form 2A - Organic

Page 1 of 1

11

SuperSet Reference: RR111629

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1002094

Date Extracted: 03/09/2010

Date Analyzed: 03/10/2010

Lab Control Spike/Duplicate Lab Control Spike Summary Polychlorinated Biphenyls (PCBs)

**Extraction Method:** 

EPA 3550B

**Analysis Method:** 

8082

Units: mg/Kg

Basis: Wet Level: Low

Extraction Lot: KWG1001977

Lab Control Sample KWG1001977-1

**Duplicate Lab Control Sample** 

KWG1001977-2

	Lab	Lab Control Spike			Duplicate Lab Control Spike				RPD	
Analyte Name	Result	Expected	%Rec	Result	Expected	%Rec	Limits	RPD	Limit	
Aroclor 1016	1.01	1.00	101	1.15	1.00	115	48-121	13	40	
Aroclor 1260	0.978	1.00	. 98	1.13	1.00	113	53-129	15	40	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Page 1 of 1 Replacement samples of sampling conducted on 02-02-2010 Method of Shipment Special Detection Limit/Reporting Lab Work No. K100 2094 S S Ж Я A \0 ×0/ Turn Around Time (working days) Time CUSTODY Date 7/10 Fax No. 512-697-8300 **多 6 6** SVO of John Jones CHAIN U niversity Medical Center Telephone No. 915-526-0084 <u>e</u> Received by (Sign & Print Name) Temperature received: And end Received by laboratory Project: × × 11:56 am X 8082 PCBs Received by Received by 11:16 am 12:27pm 10:45 am Sampling Time Air, Soil & Water Environmental Consultants, Inc. 1615 Arizona Avenue, El Paso, Texas 79902 2:46 PM 3-5-10 3-5-10 3-5-10 3-5-10 Sampling Date × × × × οN Time Time Time Time Yes ###### × × × × Officer Matrix Robert Daniels īΑ Date Date ă Water lios No. of Containers Robert Daniels Project Manager Lab Sample No. Client ŝ C Columbia
C Analytical Services & Print Name) Say S 800.695.7222 www.caslab.com ample Received Intact: .G.! aldme3 (aling, by gamplyr (S) MC-CONC-2 telinquished by delinquished by IMC-CONC-3 MC-CONC-1 MC-CONC-4

## Columbia Analytical Services, Inc. Cooler Receipt and Preservation Form

PC Å∆

Client / Project: Nic, Soil, Wahr Env. Consult. Service Request K10 07094		
Received: 3/8/0 Opened: 3/8/10 By: 15	***	_
1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered		
2. Samples were received in: (circle) Cooler (Box) Envelope Other	NA.	
3. Were custody seals on coolers? NA Y N If yes, how many and where?	,,	
If present, were custody seals intact? Y N If present, were they signed and dated?	Y	N
Cooler Temp Thermometer Cooler/COC		
Temp °C Blank °C ID ID NA Tracking Number	NA	Filed
12AW70040182119636		
7. Packing material used. Inserts Buggies Bubble Wrap Gel Packs Wet Ice Sleeves Other		
<ul> <li>8. Were custody papers properly filled out (ink, signed, etc.)?</li> <li>9. Did all bottles arrive in good condition (unbroken)? <i>Indicate in the table below</i>.</li> <li>NA</li> </ul>	$\mathcal{X}$	N
<ol> <li>Did all bottles arrive in good condition (unbroken)? Indicate in the table below.</li> <li>Were all sample labels complete (i.e analysis, preservation, etc.)?</li> </ol> NA	8	N N
11. Did all sample labels and tags agree with custody papers? <i>Indicate major discrepancies in the table on page 2.</i> NA	8	N
12. Were appropriate bottles/containers and volumes received for the tests indicated?  NA	Ť	N
13. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below	Y	N
14. Were VOA vials received without headspace? <i>Indicate in the table below.</i>	Y	N
15. Was C12/Res negative?	Y	N
		8 04 100 11
Sample ID on Bottle Sample ID on COC Identified by:		
Bottle Count Out of Head- Volume Reagent Lot Sample ID Bottle Type Temp space Broke pH Reagent added Number Ini	tials	Time
	$\perp$	
Notes, Discrepancies, & Resolutions:		
Total, Dioc. oparates, a resolutions.		
	<del></del>	



April 5, 2010

Analytical Report for Service Request No: K1003107

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Avenue El Paso, TX 79902

RE: University Medical Center

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on April 02, 2010. For your reference, these analyses have been assigned our service request number K1003107.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Pradeep Divvela Project Chemist

•

PD/lb

Page 1 of 1<sup>L</sup>

### Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

### Inorganic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- O See case narrative. One or more quality control criteria was outside the limits.

### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

### **Organic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

# Columbia Analytical Services, Inc. Kelso, WA State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-







Client:

Air, Soil, & Water Environmental, Inc.

University Medical Center

Service Request No.: Date Received:

K1003107 04/02/10

Project: Sample Matrix:

Miscellaneous Solid

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

### Sample Receipt

Two miscellaneous solid samples were received for analysis at Columbia Analytical Services on 04/02/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored at room temperature upon receipt at the laboratory.

### PCB Aroclors by EPA Method 8082

### Continuing Calibration Verification (CCV) Exceptions:

The primary evaluation criterion was exceeded for Aroclor 1016 and Decachlorobiphenyl in CCV 0405F001; and for Aroclor 1016 in CCV 0405F011. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the average percent recovery of all analytes in the verification standard. The standard met the alternative evaluation criteria.

The analysis of PCB Aroclors by EPA 8082 requires the use of dual column confirmation. When the CCV criterion is met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Aroclor 1016 and Decachlorobiphenyl. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

### **Surrogate Exceptions:**

The control criteria for Decachlorobiphenyl in samples ACS-1, ACS-2, and associated matrix spikes were not applicable. The analysis of the samples required a dilution, which resulted in a surrogate concentration below the reporting limit. No further corrective action was appropriate.

### Matrix Spike Recovery Exceptions:

The control criteria for matrix spike/duplicate matrix spike recovery of Aroclor 1016 and Aroclor 1260 for sample ACS-2 were not applicable. The analysis of this sample required a dilution such that the added spike concentration was diluted below the reporting limit. No further corrective action was required.

### **Elevated Detection Limits:**

Samples ACS-1, ACS-2, and associated matrix spikes required dilution due to the presence of elevated levels of target analyte. The reporting limits were adjusted to reflect the dilution.

### Sample Notes and Discussion:

The samples in this data set appeared to have been subjected to environmental stresses such as weathering, causing pattern degradation and changing the peak ratios. When pattern degradation occurs, correct identification and

Approved by Strang Sa Cattle Date 4/6

quantitative analysis of the individual Aroclors can be subjective. Care was taken to report the Aroclor with the best pattern match. Aroclor 1254 was reported for this data set.

No other anomalies associated with the analysis of these samples were observed.

Approved by Gulymy fall

\_Date\_\_*4/6//0*\_

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003107

Date Collected: 04/01/2010

**Date Received:** 04/02/2010

### Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-1

Lab Code:

K1003107-001

**Extraction Method:** 

EPA 3541

Analysis Method:

Units: mg/Kg Basis: Wet

Level: Low

8082

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1221	ND U	20	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1232	ND U	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1242	ND U	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1248	ND U	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1254	<b>62</b> D	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1260	ND U	9.9	100	04/02/10	04/05/10	KWG1002875	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	84	35-133	04/05/10	Acceptable	

Comments	;
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Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003107

Date Collected: 04/01/2010

**Date Received:** 04/02/2010

## Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-2

Lab Code:

K1003107-002

Units: mg/Kg Basis: Wet

Extraction Method: EPA 3541

Level: Low

Analysis Method:

8082

				Dilution	Date	Date	Extraction	
Analyte Name	Result	Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND	U	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1221	ND	U	20	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1232	ND	U	9,9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1242	ND	U	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1248	ND	U	9.9	100	04/02/10	04/05/10	KWG1002875	
Aroclor 1254	120	D	9.9	100	04/02/10	04/05/10	KWG1002875	•
Aroclor 1260	ND	TT	0 0	100	04/02/10	04/05/10	KWG1002875	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	103	35-133	04/05/10	Acceptable	

Comments:

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003107

Date Collected: NA Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

Method Blank KWG1002875-4

Extraction Method: EPA 3541 **Analysis Method:** 

8082

Units: mg/Kg Basis: Wet

Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	0.099	1	04/02/10	04/05/10	KWG1002875	***************************************
Aroclor 1221	ND U	0.20	1	04/02/10	04/05/10	KWG1002875	
Aroclor 1232	ND U	0.099	1	04/02/10	04/05/10	KWG1002875	
Aroclor 1242	ND U	0.099	1	04/02/10	04/05/10	KWG1002875	
Aroclor 1248	ND U	0.099	1	04/02/10	04/05/10	KWG1002875	•
Aroclor 1254	ND U	0.099	1	04/02/10	04/05/10	KWG1002875	
Aroclor 1260	ND U	0.099	1	04/02/10	04/05/10	KWG1002875	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	77	35-133	04/05/10	Acceptable	

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003107

**Surrogate Recovery Summary** Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 **Analysis Method:** 

8082

Units: PERCENT

Level: Low

Sample Name	Lab Code	Sur1
ACS-1	K1003107-001	84 D #
ACS-2	K1003107-002	103 D #
Method Blank	KWG1002875-4	77
ACS-2MS	KWG1002875-1	90 D #
ACS-2DMS	KWG1002875-2	101 D #
Lab Control Sample	KWG1002875-3	81

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl

35-133

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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Form 2A - Organic

Page

1 of

RR112595 SuperSet Reference:

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003107

Date Extracted: 04/02/2010

**Date Analyzed:** 04/05/2010

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-2

Lab Code:

K1003107-002

**Extraction Method:** 

EPA 3541

Analysis Method:

8082

Units: mg/Kg

Basis: Wet

Level: Low

Extraction Lot: KWG1002875

ACS-2MS

**ACS-2DMS** 

	Sample		WG1002875- Matrix Spike	1		VG1002875- cate Matrix S	_	%Rec		RPD
Analyte Name	Result	Result	Expected	%Rec	Result	Expected	%Rec	Limits	RPD	Limit
Aroclor 1016	ND	ND	0.985	0 *	ND	0.982	0 *	27-174		40
Aroclor 1260	ND	ND	0.985	0 *	ND	0.982	0 *	20-185		40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3A - Organic

1 of 1 Page

SuperSet Reference: RR112595

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project: Sample Matrix: University Medical Center Misc. solid

Service Request: K1003107 Date Extracted: 04/02/2010

**Date Analyzed:** 04/05/2010

Lab Control Spike Summary Polychlorinated Biphenyls (PCBs)

**Extraction Method:** 

EPA 3541

Analysis Method:

8082

Units: mg/Kg

Basis: Wet

Level: Low

Extraction Lot: KWG1002875

Lab Control Sample KWG1002875-3

Lah Control Snike

	Lau	Control Spike	<del></del>	%Rec	
Analyte Name	Result	Expected	%Rec	Limits	
Aroclor 1016	0.848	1.00	85	48-121	
Aroclor 1260	0.887	1.00	89	53-129	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

RR I 12595

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## Columbia Analytical Services, Inc. Cooler Receipt and Preservation Form

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PC	11)

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Re	ceived:_	4/2/1	<u>o</u>	Open	ed: <i>4/</i> _	2/10			Ву:							
1.	Sample	s were rece	ived via?	Mail	Fed Ex	, e (	UPS)	DH	II.	PDX	Couri	er H	and Delivere	d		
2.	-	s were rece			Cooler		ox)		elope		ther				NA	
3.		ustody seals	-	•	NA	Y	N		-							
	If prese	nt, were cu	stody seal	s intact?		Y	N				-		and dated?		Y	N
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9.		bottles arriv				-	-	in the t	ahle hi	elow				NA NA	(Y)	N
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11.		sample labe		•				-	najor a	liscrepe	ancies in	the table	on page 2.	NA	Ø	N
12.		ppropriate b							_	_			7 0	NA	$(\widetilde{Y})$	N
13.	Were tl	ne pH-prese	rved bottl	es (see SMC	O GEN SO.	P) rece	ived at	the ap	propria	ate pH?	? Indicate	e in the t	able below	(NA)	Y	N
14.	Were V	OA vials re	eceived wi	thout head	lspace? In	ndicate	in the	table l	elow.					(NA)	Y	N
15.	Was C	12/Res nega	tive?									-		(NA)	Y	N
2-1::-::	million auto	ample ID on	Rottie			Sam	31e ID 0	n COC					Identified by	***************************************		
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				-												
				Bottle	Count	Out of	Lead	1				Volume				
1,000		Sample ID						Broke	рН	Re	agent	added	Reagent L Number		itials	Time
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Not	es, Disc	repancies,	& Resol	utions:									· · · · · · · · · · · · · · · · · · ·		<del></del>	
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	-													Page_	of	•

### Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003387

Date Collected: 04/08/2010

Date Received: 04/09/2010

## Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-3

Lab Code:

K1003387-001

Extraction Method: Analysis Method:

EPA 3550 8082 Units: mg/Kg Basis: Wet

-----

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND 1	U	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1221	ND 3	U	0.044	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1232	ND 3	U	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1242	ND ·	U	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1248	ND '	U	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1254	0.17		0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1260	ND	U	0.022	1	04/12/10	04/12/10	KWG1003165	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	35-133	04/12/10	Acceptable

Comments:

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Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003387

Date Collected: NA Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name:

Method Blank

Units: mg/Kg Basis: Wet

Lab Code:

KWG1003165-3

**Extraction Method:** 

EPA 3550

Level: Low

Analysis Method:

8082

Dilution Date Date Extraction

Analyte Name	Result	Q	MRL	Factor	Extracted	Analyzed	Let	Note
Aroclor 1016	ND	U	0.022	1 -	04/12/10	04/12/10	KWG1003165	
Aroclor 1221	ND	U	0.044	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1232	ND	U	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1242	ND	Ų	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1248	ND	U	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1254	ND	U	0.022	1	04/12/10	04/12/10	KWG1003165	
Aroclor 1260	ND	U	0.022	1	04/12/10	04/12/10	KWG1003165	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	83	35-133	04/12/10	Acceptable	

Comments:

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Merged

Form 1A - Organic

Page SuperSet Reference:

RR112864

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003387

**Surrogate Recovery Summary** Polychlorinated Biphenyls (PCBs)

**Extraction Method:** Analysis Method:

EPA 3550

8082

Units: PERCENT

Level: Low

Sample Name	Lab Code	<u>Sur1</u>
ACS-3	K1003387-001	89
Method Blank	KWG1003165-3	83
Lab Control Sample	KWG1003165-1	85
Duplicate Lab Control Sample	KWG1003165-2	84

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl

35-133

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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09:41:14

Form 2A - Organic

Page

1 of

SuperSet Reference:

RR112864

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003387

Date Extracted: 04/12/2010

Date Analyzed: 04/12/2010

Lab Control Spike/Duplicate Lab Control Spike Summary Polychlorinated Biphenyls (PCBs)

**Extraction Method:** 

EPA 3550

Analysis Method:

8082

Units: mg/Kg

Basis: Wet

Level: Low

Extraction Lot: KWG1003165

Lab Control Sample KWG1003165-1

**Duplicate Lab Control Sample** 

KWG1003165-2

	Lat	Control Spike		Duplicate Lab Control Spike			%Rec		RPD	
Analyte Name	Result	Expected	%Rec	Result	Expected	%Rec	Limits	RPD	Limit	
Aroclor 1016	0.788	1.00	79	0.805	1.00	81	48-121	2	40	
Aroclor 1260	0.860	1.00	86	0.861	1.00	86	53-129	0	40	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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1 of 1

SuperSet Reference:



April 15, 2010

Analytical Report for Service Request No: K1003542

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Avenue El Paso, TX 79902

RE: University Medical Center

Dear Robert:

Enclosed are the results of the rush samples submitted to our laboratory on April 14, 2010. For your reference, these analyses have been assigned our service request number K1003542.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Pradeep Divvela Project Chemist

PD/lb

Page 1 of #

### Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a substance

allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

#### Inorganic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA),
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### Organic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

# Columbia Analytical Services, Inc. Kelso, WA State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-







Client:

Sample Matrix:

Air, Soil & Water Environmental, Inc.

Project:

University Medical Center

Solid

Service Request No.: Date Received:

K1003542 04/14/10

#### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

#### Sample Receipt

Two solid samples were received for analysis at Columbia Analytical Services on 04/14/10. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored at room temperature upon receipt at the laboratory.

#### PCB Aroclors by EPA Method 8082

#### Calibration Verification Exceptions:

The primary evaluation criterion was exceeded for Aroclor 1016 and Aroclor 1260 in Continuing Calibration Verification (CCV) 0415F010. In accordance with CAS standard operating procedures, the alternative evaluation specified in the EPA method was performed using the average percent recovery of all analytes in the verification standard. The standard met the alternative evaluation criteria.

The analysis of PCB Aroclors by EPA 8082 requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Aroclor 1016 and Aroclor 1260. The results for all target Aroclors were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

#### Sample Notes and Discussion:

The samples in this data set appeared to have been subjected to environmental stresses such as weathering, causing pattern degradation and changing the peak ratios. When pattern degradation occurs, correct identification and quantitative analysis of the individual Aroclors can be subjective. Care was taken to report the Aroclor with the best pattern match. Aroclor 1254 was reported for this data set.

No other anomalies associated with the analysis of these samples were observed.

R	04/15/10
<u>'A</u>	Date

Approved by

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical C

Sample Matrix:

Misc. solid

**Total Solids** 

Prep Method:

NONE

Analysis Method:

160.3M

Units: PERCENT

Basis: Wet

Service Request: K1003542

Test Notes:

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
ACS-4 .	K1003542-001	04/13/2010	04/14/2010	04/14/2010	97.8	
ACS-5	K1003542-002	04/13/2010	04/14/2010	04/14/2010	98.4	

 $\begin{tabular}{ll} Page \\ SuperSet Reference: & W1003237 \end{tabular}$ 

1 of 1

6

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project: Sample Matrix:

University Medical C Misc. solid

Service Request: K1003542

Date Collected: 04/13/2010

Date Received: 04/14/2010

Date Analyzed: 04/14/2010

**Duplicate Sample Summary Total Solids** 

Prep Method: Analysis Method: NONE

160.3M

Units: PERCENT

Basis: Wet

Test Notes:

Duplicate Relative Sample Percent Sample Result Result Difference Sample Name Lab Code Result Notes Average ACS-5 K1003542-002 98.4 98.2 98.3 <1

Page

1 of 1

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003542

Date Collected: 04/13/2010

Date Received: 04/14/2010

## Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-4

Lab Code:

K1003542-001

Units: mg/Kg Basis: Dry

Extraction Method:

EPA 3550

Level: Low

Analysis Method:

8082

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND U	0.054	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1221	ND U	0.11	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1232	ND U	0.054	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1242	ND U	0.054	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1248	ND U	0.054	1	04/15/10	04/15/10	KWG1003296	
Arocior 1254	0.078	0.054	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1260	ND U	0.054	1	04/15/10	04/15/10	KWG1003296	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	75	35-133	04/15/10	Acceptable	

Comments:
-----------

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003542

Date Collected: 04/13/2010

Date Received: 04/14/2010

## Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-5

Lab Code:

K1003542-002

Extraction Method: Analysis Method:

EPA 3550 8082

Units: mg/Kg

Basis: Dry

Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	0.052	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1221	ND U	0.11	. 1	04/15/10	04/15/10	KWG1003296	
Aroclor 1232	ND U	0.052	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1242	ND U	0.052	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1248	ND U	0.052	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1254	0.65	0.052	l	04/15/10	04/15/10	KWG1003296	
Aroclor 1260	ND U	0.052	1	04/15/10	04/15/10	KWG1003296	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	75	35-133	04/15/10	Acceptable	

Comments:

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Form 1A - Organic

Page 1 of 1

SuperSet Reference:

RR113030

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003542

Date Collected: NA
Date Received: NA

## Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code: Method Blank KWG1003296-3

**Extraction Method:** 

EPA 3550

Analysis Method:

8082

Units: mg/Kg Basis: Dry

Level: Low

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND U	0.051	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1221	ND U	0.11	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1232	ND U	0.051	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1242	ND U	0.051	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1248	ND U	0.051	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1254	ND U	0.051	1	04/15/10	04/15/10	KWG1003296	
Aroclor 1260	ND U	0.051	1	04/15/10	04/15/10	KWG1003296	

Comments:

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QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003542

**Surrogate Recovery Summary** Polychlorinated Biphenyls (PCBs)

Extraction Method:

EPA 3550

Analysis Method:

8082

Units: PERCENT

Level: Low

Sample Name	Lab Code	<u>Sur1</u>
ACS-4	K1003542-001	75
ACS-5	K1003542-002	75
Method Blank	KWG1003296-3	82
Lab Control Sample	KWG1003296-1	78
Duplicate Lab Control Sample	KWG1003296-2	82

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl

35-133

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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Form 2A - Organic

Page 1 of

SuperSet Reference:

RR113030

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Misc. solid

Service Request: K1003542

Date Extracted: 04/15/2010

Date Analyzed: 04/15/2010

Lab Control Spike/Duplicate Lab Control Spike Summary Polychlorinated Biphenyls (PCBs)

**Extraction Method:** 

EPA 3550

Analysis Method:

**Analyte Name** 

Aroclor 1016

Aroclor 1260

8082

Units: mg/Kg

Basis: Dry

Level: Low

53-129

Extraction Lot: KWG1003296

11

40

Lab Control Sample

Expected

1.00

1.00

Result

0.636

0.716

Duplicate Lab Control Sample

KWG1003296-2

1,00

0.801

KWG1003296-1 Lab Control Spike

72

**Duplicate Lab Control Spike** %Rec RPD RPD Limit Limits %Rec %Rec Result Expected 77 48-121 19 40 64 0.769 1.00

80

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

SuperSet Reference:

Page RR113030

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	Project Manager	Rob	ert	Robert Daniels	8					, 0)	Teleph 15-52	Telephone No. 915-526-0084				II io	Fax No. 512-697-8300	300				UPS
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## Columbia Analytical Services, Inc. Cooler Receipt and Preservation Form

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June 14, 2010

Analytical Report for Service Request No: K1005423

Robert Daniels
Air, Soil, & Water Environmental, Inc. (ASW)
rdaniels53@sbcglobal.net
1615 Arizona Avenue
El Paso, TX 79902

RE: University Medical Center

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on May 26, 2010. For your reference, these analyses have been assigned our service request number K1005423.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281. You may also contact me via Email at PDivvela@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Pradeep Divvela Project Chemist

PD/In

Page 1 of 12

#### Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the POL but greater

than or equal to the MDL.

#### Inorganic Data Qualifiers

- The result is an outlier. See case parrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- O See case narrative. One or more quality control criteria was outside the limits.

#### Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### Organic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

# Columbia Analytical Services, Inc. Kelso, WA State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-







Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

ND U

Project:

University Medical Center

Sample Matrix:

Solid

Service Request: K1005423

Date Collected: 05/19/2010

Date Received: 05/26/2010

## Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-6

Lab Code:

Aroclor 1260

K1005423-001

Units: mg/Kg Basis: Wet

Extraction Method: EPA 3541

Level: Low

KWG1005543

Analysis Method:

8082

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	0.097	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1221	ND U	0.20	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1232	ND U	0.097	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1242	ND U	0.097	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1248	ND U	0.097	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1254	ND U	0.097	1	06/02/10	06/09/10	KWG1005543	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note	
Decachlorobiphenyl	116	35-133	06/09/10	Acceptable	

0.097

Comments:

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RR115614

06/02/10

06/09/10

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Solid

Service Request: K1005423

Date Collected: 05/19/2010

Date Received: 05/26/2010

## Polychlorinated Biphenyls (PCBs)

Sample Name:

ACS-7

Lab Code:

K1005423-002

Units: mg/Kg Basis: Wet

Extraction Method:

EPA 3541

Level: Low

Analysis Method:

8082

			Dilution	Date	Date	Extraction	
Analyte Name	Result Q	MRL	Factor	Extracted	Analyzed	Lot	Note
Aroclor 1016	ND U	0.098	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1221	ND U	0.20	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1232	ND U	0.098	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1242	ND U	0.098	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1248	ND U	0.098	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1254	ND U	0.098	1	06/02/10	06/09/10	KWG1005543	
Aroclor 1260	ND U	0.098	1	06/02/10	06/09/10	KWG1005543	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	111	35-133	06/09/10	Acceptable

Comments:

Analytical Results

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Sediment

Service Request: K1005423

Date Collected: NA Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Lab Code:

Method Blank KWG1005543-4 Units: mg/Kg Basis: Wet

Extraction Method: EPA 3541

Level: Low

**Analysis Method:** 

8082

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	0.050	1	06/02/10	06/08/10	KWG1005543	
Aroclor 1221	ND U	0.10	1	06/02/10	06/08/10	KWG1005543	
Aroclor 1232	ND U	0.050	1	06/02/10	06/08/10	KWG1005543	
Aroclor 1242	ND U	0.050	1	06/02/10	06/08/10	KWG1005543	
Aroclor 1248	ND U	0.050	1	06/02/10	06/08/10	KWG1005543	
Aroclor 1254	ND U	0.050	1	06/02/10	06/08/10	KWG1005543	
Aroclor 1260	ND U	0.050	1	06/02/10	06/08/10	KWG1005543	· ····································

Control Date Name %Rec Limits Analyzed Note	Name %Rec	urrogate Name
robiphenyl 111 35-133 06/08/10 Acceptable	obiphenyl 111	ecachlorobiphenyl

Comments:

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Solid

Service Request: K1005423

Surrogate Recovery Summary Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 Analysis Method:

8082

Units: PERCENT

Level: Low

Sample Name	Lab Code	<u>Sur1</u>
ACS-6	K1005423-001	116
ACS-7	K1005423-002	111
Method Blank	KWG1005543-4	111
Batch QC	K1005351-010	99
Batch QCMS	KWG1005543-1	110
Batch QCDMS	KWG1005543-2	95
Lab Control Sample	KWG1005543-3	108

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl

35-133

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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Form 2A - Organic 8

Page 1 of

SuperSet Reference:

RR115614

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Sediment

Service Request: K1005423

Date Extracted: 06/02/2010

Date Analyzed: 06/08/2010

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs)

Sample Name:

Batch QC

Lab Code:

K1005351-010

**Extraction Method:** Analysis Method:

8082

EPA 3541

Units: mg/Kg Basis: Wet

Level: Low

Extraction Lot: KWG1005543

Batch QCMS

Batch QCDMS

	Sample		VG1005543- Matrix Spike	<u> </u>		VG1005543-: cate Matrix S		%Rec		RPD
Analyte Name	Result	Result	Expected	%Rec	Result	Expected	%Rec	Limits	RPD	Limit
Aroclor 1016	ND	0.851	0.768	111	0.739	0.757	98	27-174	14	40
Aroclor 1260	ND	0.857	0.768	112	0.741	0.757	98	20-185	15	40

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:

Air, Soil, & Water Environmental, Inc. (

Project:

University Medical Center

Sample Matrix:

Sediment

Service Request: K1005423

Date Extracted: 06/02/2010

Date Analyzed: 06/08/2010

Lab Control Spike Summary Polychlorinated Biphenyls (PCBs)

Extraction Method:

Analysis Method:

EPA 3541

8082

Units: mg/Kg

Basis: Wet

Level: Low

Extraction Lot: KWG1005543

Lab Control Sample KWG1005543-3 Lab Control Spike

%Rec Limits Analyte Name Result Expected %Rec Aroclor 1016 1.13 1.00 113 48-121 Aroclor 1260 1.12 1.00 112 53-129

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded,

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Form 3C - Organic

SuperSet Reference: RR115614

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Intact: Yes No   Temperature received:   Ice   No Ice   Itme   Received by (Sign & Print Name)   Received by   Itme   Time   Time   Received by   Itme   Time	I Intact: Yes No  Robert Daniels S-192010 Time Received by (Sign & Print Name)  Robert Daniels S-192010 17-19:00 PM Roceived by Beceived by Bocatory // Manual Date Time Received by Received by Bocatory // Manual Date Time Received by Received by Bocatory // Manual Date Time Received by Received by Bocatory // Manual Date Time Received by Bocatory // Manual Date T				$\dashv$	1	+	+	$\dashv$	_			$\dashv$	$\dashv$		1			_					_	∀.,			
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Columbia Analytical Services, Inc. Cooler Receipt and Preservation Form 5423 Service Request K10 Client / Project Opened: Received: UPS Samples were received via? Mail Fed Ex DHLPDXCourier Hand Delivered 1. Samples were received in: (circle) Box Envelope 2. Cooler Other NA 3. Were custody seals on coolers? NA Y N. If yes, how many and where? Y If present, were custody seals intact? N If present, were they signed and dated? Y N Cooler/COC Cooler Thermometer Tracking Number Blank °C NΑ Temp ℃ 17665F910389093976 Packing material used. Inserts Baggies Bubble Wrap Gel Packs Wet Ice Sleeves Other NA A) Were custody papers properly filled out (ink, signed, etc.)? N 8. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Ν 9. Were all sample labels complete (i.e analysis, preservation, etc.)? NA N 10. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA N Were appropriate bottles/containers and volumes received for the tests indicated? NA Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below Ν Were VOA vials received without headspace? Indicate in the table below. Y N Y Was C12/Res negative? N Sample ID on Bottle Identified by: Sample ID on COC **Bottle Count** Volume Out of Head-Reagent Lot Temp space Broke added Number Time Sample ID Bottle Type initials Reagent Notes, Discrepancies, & Resolutions:



### LABORATORY REPORT

February 16, 2010

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Ave El Paso, TX 79902

RE: University Medical Center of El Paso / 009-UMC-012

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on February 2, 2010. For your reference, these analyses have been assigned our service request number P1000374.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains \_\_\_\_\_\_ pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Karen Ryan

Project Manager

Page 1 of ∐



Simi Valley, CA 93065

805.526.7161

805.526.7270 fax

www.caslab.com

Client:

Columbia

Analytical Services =

Air, Soil, & Water Environmental, Inc. (ASW)

CAS Project No:

P1000374

Project: University Medical Center of El Paso / 009-UMC-012

### CASE NARRATIVE

The samples were received intact under chain of custody on February 2, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

### Aroclors Analysis

The low volume PUF samples were analyzed for arochlors. The samples were extracted and analyzed for aroclors in accordance with EPA Method TO-10A. An aliquot of the extract was injected into a gas chromatograph with dual electron capture detectors (GC/ECD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Project: Air, Soil, & Water Environmental, Inc. (ASW) University Medical Center of El Paso/009-UMC-012 Service Request: P1000374

### SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	<u>DATE</u>	TIME
P1000374-001	UMC-1	1/30/10	14:11
P1000374-002	UMC-2	1/31/10	14:46
P1000374-003	UMC-3	2/1/10	15:11

### Columbia Analytical Services

2655 Park Center Drive, Suite A

Simi Valley, California 93065

Air - Chain of Custody Record & Analytical Service Request

Cooler / Blank こうで Temperature Project Requirements Preservative or specific instructions CAS Project No. Comments e.g. Actual (MRLS, QAPP) Analysis Method/Analytes S S S S Time: EDD Units: Date: 10 Day-Standard EDD required Yes / XI CAS Contact: EPA TO-10A Requested Turnaround Time in Business Days (Surcharges) pleasp-chcle PCBs × 2661.9 L 2838,3 L 2844.5 L Manuer 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) Sample Volume Type: P.O. # / Billing Information
AIR, SOIL and WATER ENVIRONMENTAL, Inc. Flow Controller (Bar code -University Medical Center of El Paso Received by: (Signature) Received by: (Signature) Received by: (Signature) Canister ID (Bar code # --AC, SC, etc.) 1615 Arizona Avenue El Paso, Texas 79902 Tier III (Data Validation Peckage) 10% Surcharge \_\_\_\_\_ Sampler (Print & Sign) Project Number 009-UMC-012 Sample Type (Alr/Tube/ Solid) Project Name 1014 4:01 PUF PUF PUF Time: Collected 14:46 15:11 14:11 Date: 1-31-2010 2-01-2010 Date Collected 1-30-2010 AIR, SOIL and WATER ENVIRONMENTAL, Inc. 512-697-8300 Laboratory ID Number Company Name & Address (Reporting Information) 7 Tier I - (Results/Default if not specified) X Report Tier Levels - please select Email Address for Result Reporting rdaniels53@sbcglobal.net 1615 Arizona Avenue El Paso, Texas 79902 Reliquished by: (Signature) Reliquished by: (Signature) Phone (805) 526-7161 Robert Daniels Tier II (Results + QC) Fax (805) 526-7270 hone (915) 533-3344 Client Sample ID Project Manager UMC-1 UMC-2 UMC-3

### Columbia Analytical Services, Inc. Sample Acceptance Check Form

Client:	Air, Soil, & W	Vater Environmental,	Inc. (ASW)		_	Work order:	P1000374			
Project:	University Me	dical Center of El Pas	o / 009-UMC-							
	s) received on:				Date opened:		by:	MZAN		
		samples received by CAS. T							n of	
compliance of	or nonconformity.	Thermal preservation and pl	I will only be evalu	rated either at the	request of the cli	ent and/or as required	l by the method/SO	P. <u>Yes</u>	No	<u>N/A</u>
1	Were sample	containers properly n	narked with cli	ent sample II	)?			X		
2	_	upplied by CAS?						X		
3		ontainers arrive in go	od condition?				,	X		
4	_	of-custody provided?						X		
5		a-of-custody properly	completed?					X		
6		ontainer labels and/or	~	th custody pa	pers?			X		
7		olume received adequ			•			X		
8	_	vithin specified holdin						X		
9	_	mperature (thermal p		f cooler at rec	eipt adhered	to?		$\boxtimes$		
	• •	Cooler Temperature	•		Temperature		°C			
10	Was a trip bla	*							$\boxtimes$	
	7	upplied by CAS:								
11	Were custody	seals on outside of co	oler/Box?				. <del>-</del>		X	
	Location of	seal(s)?					Sealing Lid?			X
	Were signat	ure and date included	?				<del></del>			×
	Were seals is	ntact?								×
	Were custody	seals on outside of sar	nple container	?					X	
	Location of	seal(s)?					_Sealing Lid?			X
	Were signate	ure and date included	?							X
	Were seals is	ntact?								X
12	Do containers	have appropriate pre	servation, acco	ording to met	hod/SOP or 0	Thent specified i	nformation?			X
	Is there a clie	nt indication that the	submitted sam	ples are pH p	reserved?					$\times$
	Were <b>VOA</b> vi	ials checked for prese	nce/absence of	air bubbles?						X
	Does the clier	nt/method/SOP requir	e that the analy	yst check the	sample pH ar	nd <u>if necessary</u> a	lter it?			X
13	Tubes:	Are the tubes cap	ped and intact	?						X
		Do they contain	noisture?							X
14	Badges:	Are the badges p	roperly capped	and intact?						X
		Are dual bed bad	ges separated	and individua	lly capped ar	nd intact?				X
Lab	Sample ID	Container	Required	Received	Adjusted	VOA Headspac	e Recei	pt / Pres	ervatio	1
		Description	ρП *	pH	pH	(Presence/Absence		Comme		
P1000374	1-001.01	PUF (Low Vol)						***************************************		
P1000374		PUF (Low Vol)								
P1000374	1-003.01	PUF (Low Vol)								
Explain a	ny discrepancies	s: (include lab sample II	numbers):		•	•				
	,	/	_							

<sup>\*</sup>Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH-2); Metals, HNO3 (pH-2); CN (NaOH or NaOH/Asc Acid) (pH>12);

Diss. Sulfide NaOH (pH-12); T. Sulfide NaOH/ZnAc(pH-12); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Diss. Sulfide NaOH (pH-12); T. Sulfide NaOH/ZnAc(pH-12); RSK - CO2, (pH 5-8); Sulfur (pH>4)

### RESULTS OF ANALYSIS

Page 1 of I

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: UMC-1

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1000374

CAS Sample ID: P1000374-001

Test Code:

EPA TO-10A Modified

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 1/30/10

Date Received: 2/2/10

Date Extracted: 2/4/10 Date Analyzed: 2/5/10

Volume Sampled: 2.8445 m3

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	μg/m³	Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.18	
11104-28-2	Aroclor 1221	ND	500	ND	0.18	
11141-16-5	Aroclor 1232	ND	500	ND	0.18	
53469-21-9	Aroclor 1242	ND	500	ND	0.18	
12672-29-6	Aroclor 1248	ND	500	ND	0.18	
11097-69-1	Aroclor 1254	ND	500	ND	0.18	
11096-82-5	Aroclor 1260	ND	500	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: UMC-2

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1000374

CAS Sample ID: P1000374-002

Test Code:

EPA TO-10A Modified

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 1/31/10 Date Received: 2/2/10

Date Extracted: 2/4/10

Date Analyzed: 2/5/10

Volume Sampled: 2.8383 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge		Result μg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500		ND	0.18	
11104-28-2	Aroclor 1221	ND	500		ND	0.18	
11141-16-5	Aroclor 1232	ND	500		ND	0.18	
53469-21-9	Aroclor 1242	ND	500		ND	0.18	
12672-29-6	Aroclor 1248	ND	500		ND	0.18	
11097-69-1	Aroclor 1254	ND	500	,	ND	0.18	
11096-82-5	Aroclor 1260	ND	500		ND	0.18	• •

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: UMC-3

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1000374

Date Collected: 2/1/10

Date Received: 2/2/10

Date Extracted: 2/4/10

CAS Sample ID: P1000374-003

Test Code:

EPA TO-10A Modified

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media: Test Notes:

PUF (Low Volume) Cartridge

Date Analyzed: 2/5/10 Volume Sampled: 2.6619 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	$\mu \mathrm{g}/\mathrm{m}^3$	Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.19	
11104-28-2	Aroclor 1221	ND	500	ND	0.19	
11141-16-5	Aroclor 1232	ND	500	ND	0.19	
53469-21-9	Aroclor 1242	ND	500	ND	0.19	
12672-29-6	Aroclor 1248	ND	500	ND	0.19	
11097-69-1	Aroclor 1254	880	500	0.33	0.19	
11096-82-5	Aroclor 1260	ND	500	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

### RESULTS OF ANALYSIS

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Method Blank

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1000374

Date Collected: NA

Date Received: NA

CAS Sample ID: P100204-MB

Test Code:

EPA TO-10A Modified

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

Test Notes:

PUF (Low Volume) Cartridge

Volume Sampled:

Date Extracted: 2/4/10 Date Analyzed: 2/05/10

Final Extract Volume:

NA m<sup>3</sup> 10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result μg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	NA	NA	
11104-28-2	Aroclor 1221	ND	500	NA	NA	•
11141-16-5	Aroclor 1232	ND	500	NA	NA	
53469-21-9	Aroclor 1242	ND	500	NA	NA	
12672-29-6	Aroclor 1248	ND	500	NA	NA	
11097-69-1	Aroclor 1254	ND	500	NA	NA	
11096-82-5	Aroclor 1260	ND	500	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

NA = Not applicable.

### SURROGATE SPIKE RECOVERY RESULTS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1000374

Test Code:

EPA TO-10A Modified

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge(s)

Test Notes:

Date(s) Collected: 1/30 - 2/1/10

Date(s) Received: 2/2/10

Date(s) Extracted: 2/04/10

Date(s) Analyzed: 2/5/10

		2,4,5,6-Tetrachie	oro-m-Xylene	Decachlorob		
Client Sample ID	CAS Sample ID	%	Acceptance	%	Acceptance	Data
		Recovered	Limits	Recovered	Limits	Qualifier
Method Blank	P100204-MB	91	60-120	116	60-120	
Lab Control Sample	P100204-LCS	93	60-120	118	60-120	
Duplicate Lab Control Sample	P100204-DLCS	95	60-120	119	60-120	
UMC-1	P1000374-001	79	60-120	105	60-120	
UMC-2	P1000374-002	91	60-120	107	60-120	
UMC-3	P1000374-003	94	60-120	112	60-120	

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1000374

CAS Sample ID: P100204-DLCS

Test Code:

EPA TO-10A Modified

Instrument ID:

HP6890/GC6/ECD/ECD Hani Cherazaie

Analyst: Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: NA

Date Received: NA

Date Extracted: 2/4/10

Date Analyzed: 2/05/10

Volume(s) Analyzed: NA m³

	•	Spike Amount Result Project								
CAS#	Compound	LCS / DLCS	LCS	DLCS	% Re	% Recovery Ac		RPD	RPD	Data
		μg/ml	μg/ml	μg/ml	LCS	DLCS	Limits		Limit	Qualifier
11097-69-1	Aroclor 1254	500	527	568	105	114	70-130	8	15	<del></del>

Date: 2/15/10 TO4TO10PCBS.XLS - Page No.:



### LABORATORY REPORT

April 23, 2010

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Avenue El Paso, TX 79902

RE: University Medical Center of El Paso / 009-UMC-012

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on April 9, 2010. For your reference, these analyses have been assigned our service request number P1001261.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains **10** pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No. 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Karen Ryan

Project Manager

Page 1 of 16



Simi Valley, CA 93065

805,526,7161

805.526.7270 fax

www.castab.com

Client:

Analytical Services

Air, Soil, & Water Environmental, Inc. (ASW)

CAS Project No:

P1001261

Project:

University Medical Center of El Paso / 009-UMC-012

### **CASE NARRATIVE**

The samples were received intact under chain of custody on April 9, 2010 and were stored in accordance with the analytical method requirements. Sample OUT-CON-3-30-2L-29 (P1001261-008) was placed on hold per client instructions. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

### Arochlors Analysis

Samples ABT-1-PRE (P1001261-001), IN-CON-3-30 (P1001261-002), OUT-CON-3-30 (P1001261-003), OUT-CON-3-31 (P1001261-004) and IN-CON-3-31 (P1001261-005) were received past the recommended holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data is flagged to indicate the holding time exceedances.

The samples were extracted and analyzed for selected arochlors in accordance with EPA Method TO-10A. An aliquot of each extract was injected into a gas chromatograph with dual electron capture detectors (GC/ECD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Project: Air, Soil, & Water Environmental, Inc. (ASW)

University Medical Center of El Paso/009-UMC-012

Service Request: P1001261

### SAMPLE CROSS-REFERENCE

SAMPLE#	CLIENT SAMPLE ID	<u>DATE</u>	<u>TIME</u>
P1001261-001	ABT-1-PRE	3/28/10	11:52
P1001261-002	IN-CON-3-30	3/31/10	07:43
P1001261-003	OUT-CON-3-30	3/31/10	08:10
P1001261-004	OUT-CON-3-31	4/1/10	08:57
P1001261-005	IN-CON-3-31	4/1/10	08:31
. P1001261-006	OUT-CON-4-6	4/7/10	10:01
P1001261-007	IN-CON-4-6	4/7/10	09:45
P1001261-008	OUT-CON-3-30-2L-29	3/30/10	00:00

Page of \_\_\_\_

# Air - Chain of Custody Record & Analytical Service Request

Columbia Sarvices.

2655 Park Center Drive, Suite A

Cooler / Blank Temperature Project Requirements (MRLs, QAPP) specific instructions Preservative or Comments e.g. Actual 2000 CAS Project No. Time: Analysis Method/Analytes Щė. ine: EDD Units: Date: 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard EDD required Yes / NA CAS Contact: 3PA TO-10A Requested Turnaround Time in Business Days (Surcharges) please circle ×  $\times$ CBs × × Received by: (Signature) (1) ACLALLICES 3192.1 L 3273.0 L 32049L 3273.7 L 2955.0 L 3261.51 3223.2 Sample Type: \_ P.O. # / Billing Information AIR, SOIL and WATER ENVIRONMENTAL, Inc. Flow Controller (Bar code -FC# University Medical Center of El Paso Received by: (Signature) Received by: (Signature) Canister ID (Bar code # -AC, SC, etc.) 1615 Arizona Avenue El Paso, Texas 79902 Tier III (Data Validation Package) 10% Surcharge .... varrpler (Print & Sign) Project Number 0C9-UMC-012 Sample Type (Air/Tube/ · Solid) Project Name PUF PUF PUF PUF £N£ ·ime: F E. me: Time Collected 08:57 08:10 07:43 10:01 09:45 11:52 Tier V (client specified) Date: 4-01-2010 4-07-2010 4-07-2010 Date Collected 3-31-2010 3-31-2010 3-28-2010 512-697-8300 AIR, SOIL and WATER ENVIRONMENTAL, Inc. Laboratory ID Number Company Name & Address (Reporting Information) (V) (A)(G) 떮 1025-NO Fier I - (Results/Default if not specified)  $\overline{X}$ Report Tier Levels - please select Email Address for Result Reporting rdaniels53@sbcglobal.net Simi Valley, California 93065 1615 Arizona Avenue Reliquished by: (Signature) El Paso, Texas 79902 reject Manager Reliquished by (Signature) Phone (805) 526-7161 OUT-CON-4-6 Tier II (Rasulfs + AC) OUT-CON-3-30 OUT-CON-3-31 Fax (805) 526-7270 Robert Daniels IN-CON-4-6 IN-CON-3-30 (915) 533-3344 IN-CON-3-31 Client Sample ID ì ABT-1-PRE

**(39)** 

### Columbia Analytical Services, Inc. Sample Acceptance Check Form

Client	:: Air, Soil, & V	Water Environmental,	Inc. (ASW)		_	Work order:	P1001261			
Project	: University M	ledical Center of El Pa	so / 009-UMC	C-012						
Sample	e(s) received on	: 04/09/10		-	Date opened:	04/09/10	by:	MZAN	1ORA	
Note: This	s form is used for <u>al</u>	samples received by CAS.	The use of this for	m for custody seal:	s is strictly meant	to indicate presence	/absence and not as a	an indicatio	on of	
compliance	or nonconformity.	Thermal preservation and p	H will only be eva	luated either at the	request of the cli	ent and/or as require	ed by the method/SO		٠.	
			-					<u>Yes</u>	No	<u>N/A</u>
1	_	e containers properly	narked with c	lient sample II	D?				X	
2	Container(s)	supplied by CAS?				•		X		
3	_	containers arrive in go	ood condition?	?				X		
4	Was a chain-	of-custody provided?					•	$\boxtimes$		
5	Was the chai	<b>n-of-custody</b> properly	completed?					X		
6	Did sample o	container labels and/c	r tags agree w	vith custody pa	pers?			X		
7	Was sample	volume received adeq	ate for analys	sis?			•	X		
8	Are samples	within specified holdi	ng times?						X	
9		emperature (thermal		of cooler at re-	ceipt adhered	to?			X	
		Cooler Temperature	12		Temperature		°C			
10		lank received?		-	<b>1</b>		<del>-</del>		X	
	Trip blank	supplied by CAS:			•					
. 11	Were custody	y seals on outside of co	ooler/Box?						X	
	Location of	seal(s)?			5		Sealing Lid?			×
	Were signa	ture and date included	?							X
	Were seals:						-			X
		seals on outside of sa	mple containe	er?					×	
	Location of		·	<b>4</b>			Sealing Lid?			X
•		ture and date included	2		·		Ocaling Lite:			X
	Were seals		•			•				X
12		mace: s have appropriate pre	correction acc	cording to met	had/SOD or C	Tient enecified	information?			X
12	•	ent indication that the		-		znent specifica	miormation?			
					A CRET A COT !					X
	'	vials checked for prese			•					X
		nt/method/SOP requir		-	sample pH ar	ıd <u>if necessary</u> a	alter it?			X
13	Tubes:	Are the tubes cap	ped and intac	t?						X
•		Do they contain	moisture?							X
14	Badges:	Are the badges p	roperly cappe	d and intact?						X
		Are dual bed bac	lges separated	and individua	illy capped an	nd intact?				X
Lab	Sample ID	Container	Required	Received	Adjusted	VOA Headspa	ee Recei	ot / Pres	ersation	
		Description	рП *	pH	pH	(Presence/Absence		Comme		
P100126	1-001.01	PUF (Low Vol)								
P100126		PUF (Low Vol)						www		
P100126	1-003.01	PUF (Low Vol)								
P100126	1-004.01	PUF (Low Vol)								
P100126	1-005.01	PUF (Low Vol)								
Explain	any discrepancie	s: (include lab sample II	numbers):							
<u> </u>	006.0 005.	.1								
Samples -	006 & -007 have	the same sample ID on	the jar. They w	vere assigned by	the sample tir	ne listed on jar.				
*Required nF	L: Phenols/COD/NH3/	TOC/TOX/NO3+NO2/TKN/T.F	HOS. H2SO4 (nH-2	2): Metals, HNO3 (nF	I<2): CN (NaOH ~	NaOH/Ase Acid) (nH	>12):			
, · · · F			-, · \p-x	,, (PL	, · (* ·*·		/1			

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Diss. Sulfide, NaOH (pH>12); T. Suifide, NaOH/ZnAc (pH>12)

### Columbia Analytical Services, Inc. Sample Acceptance Check Form

Client: Air, Soil, & Water Environmental, Inc. (ASW) Work order: P1001261

Project: University Medical Center of El Paso / 009-UMC-012

Sample(s) received on: 04/09/10 Date opened: 04/09/10 by: **MZAMORA** Lab Saniple ID Container Required Received Adjusted VOA Headspace Receipt / Preservation pH pH Comments Description pH \* (Presence/Absence) P1001261-006.01 PUF (Low Vol) P1001261-007.01 PUF (Low Vol) P1001261-008.01 PUF (Low Vol)

Explain any discrepancies: (include lab sample ID numbers):		

<sup>\*</sup>Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);
Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12)

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

### **RESULTS OF ANALYSIS**

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: ABT-1-PRE

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P1001261-001

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

H3

Date Collected: 3/28/10

Date Received: 4/9/10

Date Extracted: 4/12/10 Date Analyzed: 4/13/10

Volume Sampled: 2.955 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.17	
11104-28-2	Aroclor 1221	ND	500	ND	0.17	
11141-16-5	Aroclor 1232	ND	500	ND	0.17	
53469-21-9	Aroclor 1242	ND	500	ND	0.17	
12672-29-6	Aroclor 1248	. ND	500	ND	0.17	
11097-69-1	Aroclor 1254	ND	500	ND	0.17	•
11096-82-5	Aroclor 1260	ND	500	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Date:

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

H3 = Sample was received and analyzed past holding time.

### RESULTS OF ANALYSIS

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: IN-CON-3-30

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P1001261-002

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

**H3** 

Date Collected: 3/31/10

Date Received: 4/9/10

Date Extracted: 4/12/10

Date Analyzed: 4/13/10

Volume Sampled: 3.2737 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	μg/m³	Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.15	
11104-28-2	Aroclor 1221	ND	500	ND	0.15	
11141-16-5	Aroclor 1232	ND	500	ND	0.15	
53469-21-9	Aroclor 1242	, ND	500	ND	0.15	
12672-29-6	Aroclor 1248	. ND	500	ND	0.15	
11097-69-1	Aroclor 1254	55,000	<b>500</b>	17	0.15	
11096-82-5	Aroclor 1260	ND	500	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

Verified By:

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

H3 = Sample was received and analyzed past holding time.

### RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-3-30

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P1001261-003

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

**H3** 

Date Collected: 3/31/10

Date Received: 4/9/10

Date Extracted: 4/12/10

Date Analyzed: 4/13/10

Volume Sampled: 3,2615 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	μg/m³	Qualifier
12674-11-2	Aroclor 1016	 . ND	500	ND	0.15	
11104-28-2	Aroclor 1221	ND	500	ND	0.15	
11141-16-5	Aroclor 1232	ND ·	500	, ND	0.15	
53469-21-9	Aroclor 1242	ND	500	ND	0.15	
12672-29-6	Aroclor 1248	ND	500	ND	0.15	
11097-69-1	Aroclor 1254	ND	500	ND	0.15	
11096-82-5	Aroclor 1260	ND	500	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method. H3 = Sample was received and analyzed past holding time.

RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-3-31

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P1001261-004

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

**H3** 

Date Collected: 4/1/10

Date Received: 4/9/10

Date Extracted: 4/12/10

Date Analyzed: 4/13/10

Volume Sampled: 3.273 m<sup>3</sup> Final Extract Volume:

10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.15	<del></del>
11104-28-2	Aroclor 1221	ND	500	ND	0.15	
11141-16-5	Aroclor 1232	ND	500	ND	0.15	
53469-21-9	Aroclor 1242	ND	500	ND	0.15	
12672-29-6	Aroclor 1248	ND	500	ND	0.15	
11097-69-1	Aroclor 1254	ND	500	ND	0.15	
11096-82-5	Aroclor 1260	ND `	500	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

H3 = Sample was received and analyzed past holding time.

### RESULTS OF ANALYSIS

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: IN-CON-3-31

CAS Project ID: P1001261

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Sample ID: P1001261-005

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

**H3** 

Date Collected: 4/1/10

Date Received: 4/9/10

Date Extracted: 4/12/10

Date Analyzed: 4/13/10

Volume Sampled: 3.2049 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data	
		ng/Cartridge	ng/Cartridge	μg/m³	$\mu g/m^3$	Qualifier	
12674-11-2	Aroclor 1016	ND	500	ND	0.16		
11104-28-2	Aroclor 1221	ND	500	ND	0.16		
11141-16-5	Aroclor 1232	ND	500	ND	0.16		
53469-21-9	Aroclor 1242	·ND	500	ND	0.16		
12672-29-6	Aroclor 1248	ND	500	ND	0.16		
11097-69-1	Aroclor 1254	5,700	500	1.8	0.16		
11096-82-5	Aroclor 1260	ND	500	ND	0.16		

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

H3 = Sample was received and analyzed past holding time.

Date:

RESULTS OF ANALYSIS . Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-6

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P1001261-006

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/7/10

Date Received: 4/9/10

Date Extracted: 4/12/10

Date Analyzed: 4/13/10

Volume Sampled: 3.1921 m<sup>3</sup> Final Extract Volume:

·10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result .µg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.16	
11104-28-2	Aroclor 1221	ND	500	ND	0.16	•
11141-16-5	Aroclor 1232	ND	500	ND	0.16	
53469-21-9	Aroclor 1242	ND	500	ND	0.16	4.
12672-29-6	Aroclor 1248	ND	500	ND	0.16	
11097-69-1	Aroclor 1254	ND	500	ND	0.16	
11096-82-5	Aroclor 1260	ND	500	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: IN-CON-4-6

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P1001261-007

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/7/10 Date Received: 4/9/10

Date Extracted: 4/12/10 Date Analyzed: 4/13/10

Volume Sampled: 3.2232 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data	
		ng/Cartridge	ng/Cartridge	μg/m³	$\mu g/m^3$	Qualifier	
12674-11-2	Aroclor 1016	ND	500	ND	0.16		
11104-28-2	Aroclor 1221	ND	500	ND	0.16		
11141-16-5	Aroclor 1232	ND	500	ND	0.16		
53469-21-9	Aroclor 1242	ND	500	ND	0.16		
12672-29-6	Aroclor 1248	ND	500	ND	0.16		
11097-69-1	Aroclor 1254	9,300	500	2.9	0.16	,	
11096-82-5	Aroclor 1260	ND	500	ND	0.16		

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

### RESULTS OF ANALYSIS

Page 1 of I

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Method Blank

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P100412-MB

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: NA

Date Received: NA

Date Extracted: 4/12/10

Date Analyzed: 4/13/10

Volume Sampled:

NA m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result μg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	NA	NA	
11104-28-2	Aroclor 1221	ND	500	NA	NA	
11141-16-5	Aroclor 1232	ND	500	NA	NA	
53469-21-9	Aroclor 1242	ND	500	NA	NA	
12672-29-6	Aroclor 1248	ND	500	NA	NA	
11097-69-1	Aroclor 1254	, ND	500	NA	NA	
11096-82-5	Aroclor 1260	ND	500	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

NA = Not applicable.

Verified By:

P1001261\_TO-4\_10\_1004200909\_SS - MBlank

### SURROGATE SPIKE RECOVERY RESULTS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Project ID:

University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge(s)

Test Notes:

Date(s) Collected: 3/28 - 4/7/10

Date(s) Received: 4/9/10

Date(s) Extracted: 4/12/10 Date(s) Analyzed: 4/13/10

•		2,4,5,6-Tetrachlo	oro-m-Xylene	Decachlorob		
Client Sample ID	CAS Sample ID	%	Acceptance	%	Acceptance	Data
		Recovered	Limits	Recovered	Limits	Qualifier
Method Blank	P100412-MB	83	60-120	110	60-120	
Lab Control Sample	P100412-LCS	85	60-120	108	60-120	
Duplicate Lab Control Sample	P100412-DLCS	- 84	60-120	109	60-120	
ABT-1-PRE	P1001261-001	86	60-120	109	60-120	
IN-CON-3-30	P1001261-002	90	60-120	114	60-120	
OUT-CON-3-30	P1001261-003	87	60-120	108	60-120	
OUT-CON-3-31	P1001261-004	83	60-120	111	60-120	
IN-CON-3-31	P1001261-005	85	60-120	111	60-120	
OUT-CON-4-6	P1001261-006	84	60-120	112	60-120	
IN-CON-4-6	P1001261-007	86	60-120	108	60-120	

Verified By:\_\_\_\_\_

Date: 4/22/(8

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001261

CAS Sample ID: P100412-DLCS

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: NA

Date Received: NA

Date Extracted: 4/12/10

Date Analyzed: 4/13/10

Volume(s) Analyzed: NA m³

	•	Spike Amount	Re	sult	Project			•		
CAS#	Compound	LCS / DLCS	LCS	DLCS	% Re	covery	Acceptance	RPD	RPD	Data
	ŕ	μg/ml	$\mu g/ml$	μg/ml	LCS	DLCS	Limits		Limit	Qualifier
11097-69-1	Aroclor 1254	500	481	471	96	94	70-130	2	15	·

Verified By:



### LABORATORY REPORT

April 30, 2010

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Avenue El Paso, TX 79902

RE: University Medical Center of El Paso / 009-UMC-012

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on April 16, 2010. For your reference, these analyses have been assigned our service request number P1001356.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains \( \) 15 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Karen Ryan

Project Manager

Page 1 of <u>JS</u>



2655 Park Center Drive, Suite A.

Simi Valley, CA 93065

806.526.718

805.526.7270 fax

www.caslab.com

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

CAS Project No:

P1001356

Project:

University Medical Center of El Paso / 009-UMC-012

### CASE NARRATIVE

The samples were received intact under chain of custody on April 16, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

### Arochlors Analysis

The samples were extracted and analyzed for selected arochlors in accordance with EPA Method TO-10A. An aliquot of each extract was injected into a gas chromatograph with dual electron capture detectors (GC/ECD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Project: Air, Soil, & Water Environmental, Inc. (ASW)

University Medical Center of El Paso/009-UMC-012

Service Request: P1001356

### SAMPLE CROSS-REFERENCE

SAMPLE#	CLIENT SAMPLE ID	<u>DATE</u>	TIME
P1001356-001	IN-CON-4-7	4/9/10	09:31
P1001356-002	OUT-CON-4-7	4/9/10	10:05
P1001356-003	IN-CON-4-9	4/10/10	10:07
P1001356-004	OUT-CON-4-9	4/10/10	10:31
P1001356-005	OUT-CON-4-11	4/12/10	10:45
P1001356-006	OUT-CON-4-12	4/13/10	10:51
P1001356-007	OUT-CON-4-14	4/14/10	11:31

Page 1 of 1

## 76 Columbia 25 Analytical Services

2655 Park Center Drive, Suite A

Simi Valley, California 93065

# Air - Chain of Custody Record & Analytical Service Request

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Page

Project Requirements (MRLs, QAPP) specific instructions Preservative or Comments e.g. Actual Polect No. A S D Analysis Method/Analytes Ë EDD Units: Date: 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard CAS Contact: EPA TO-10A EDD required Yes / NX Requested Turnaround Time in Business Days (Surcharges) please circle × × CBs × 2980.4 L 3305.9 L 3189.1 L 2971.2 L 3291.0 L 3202.4 L 3174.0 Sample Volume Type: P.O. # / Billing Information
AIR, SOIL and WATER ENVIRONMENTAL, Inc. Received by Bigging ULL 2 12 Flow Controller (Barcode -FC#) University Medical Center of El Paso Received by: (Signature) Canister ID (Bar code # -AC, SC, etc.) E. Paso, Texas 79902 Sampler (Print & Sign) Robert Daniels 1615 Arizona Avenue Fier III (Data Validation Package) 10% Surcharge \_\_\_\_ Project Number 009-UMC-012 Tirre: 4:52 pm Sample Type (Air/Tube/ Solid) roject Name PUF PUFPUF PUF PUF PUF PUF ine: Date: 4-15-10 09:31 10:07 10:05 10:31 Collected 10:45 10:51 11:31 Tier V (client specified) 4-10-2010 4-12-2010 4-14-2010 4-10-2010 4-13-2010 4-9-2010 4-9-2010 Collected AIR, SOIL and WATER ENVIRONMENTAL, Inc. 512-697-8300 Laboratory ID Number Company Name & Address (Reporting Information)  $\mathfrak{t}_2$ M **M**@ (1 1 Ä Tier I - (Results/Default if not specified) Report Tier Levels - please select Email Address for Result Reporting rdaniels53@sbcglobal.net 1615 Arizona Avenue El Paso, Texas 79902 oject Manager Reliquished by: (Signature) Robert Daniels Reliquished by: (Signature) Phone (805) 526-7161 OUT-CON-4-12 OUT-CON-4-14 OUT-CON-4-7 Fax (805) 526-7270 Robert Daniels OUT-CON-4-1 Fler II (Results + QC) OUT-CON-4-9 hone (915) 533-3344 IN-CON-4-7 IN-CON-4-9 Client Sample ID

Reliquished by: (Signature)

Cooler / Blank Temperature

Time:

Date:

Received by: (Signature)

Time

Date:

### Columbia Analytical Services, Inc. Sample Acceptance Check Form

Client:	Air, Soil, & V	Vater Environmental,	Inc. (ASW)		_	Work order:	P1001356			
-		edical Center of El Pa	so / 009-UMC	-012	-					
Sample(	(s) received on:	04/16/10			Date opened:	04/16/10	by:	MZAN	10RA	
<i>Note:</i> This	form is used for <u>all</u>	samples received by CAS.	The use of this for	n for custody seals	is strictly meant	to indicate presence/	absence and not as a	n indicatio	on of	
compliance	or nonconformity.	Thermal preservation and pl	I will only be eval	uated either at the	request of the cli	ent and/or as required	d by the method/SOF		<b>N</b> 1.	B1/4
								Yes	No	<u>N/A</u>
1	_	containers properly r	narked with cl	lient sample II	0?			X		
2		supplied by CAS?						X		
3	Did sample c	ontainers arrive in go	od condition?				•	X		
4	Was a chain-	of-custody provided?				•		X		
5	Was the chair	n-of-custody properly	completed?					×		
6	Did sample c	ontainer labels and/o	r tags agree w	ith custody pa	pers?			X		
7	Was sample v	volume received adequ	ate for analys	is?				X		
- 8		vithin specified holdir	•				•	X		
9	-	emperature (thermal)	_	of cooler at rec	ceint adhered	to?	•	X		
		Cooler Temperature	3		Temperature		°C			
10	Was a trip bla	- · .	· · · · · · · · · · · · · · · · · · ·	·	1 onipor attare		<b>–</b> ~		X	
10	_	supplied by CAS:						_		ш.
11	-	seals on outside of co	noler/Boy?						X	
11	Location of		OLCITION:				Coolin a Lida	□		×
		, ,	o .				_Sealing Lid?			
		ure and date included	!							X
	Were seals i			•						$\boxtimes$
		seals on outside of sar	mple containe	r?					X	
٠	Location of	• *	<u></u>				Sealing Lid?			X
	_	ure and date included	?							X
	Were seals i						÷			X
12	Do containers	have appropriate pre	servation, acc	cording to met	hod/SOP or C	llient specified i	nformation?		$\square$	X
•	Is there a clie	nt indication that the	submitted san	nples are <b>pH</b> p	reserved?					X
•	Were <b>VOA v</b>	ials checked for prese	nce/absence o	f air bubbles?						X
	Does the clien	nt/method/SOP requir	e that the anal	yst check the	sample pH ar	id <u>if necessary</u> a	lter it?			X
-13	Tubes:	Are the tubes cap		•	• •					X
		Do they contain:	moisture?							X
14	Badges:	Are the badges p		d and intact?						X
• •	28***	Are dual bed bad			lly canned an	d intact?				X
		Υ								
Lab	Sample ID	Container	Required	Received	Adjusted	VOA Headspac		it / Presi		
		Description	pH.*	pH	pH	(Presence/Absence	'	Sommer	ICS	
P1001356		PUF (Low Vol)								
P1001356		PUF (Low Vol)								
P1001356 P1001356		PUF (Low Vol)					1	<u> </u>		
P1001356		PUF (Low Vol) PUF (Low Vol)						•		
	-	: (include lab sample II	l numbers):		<u> </u>	<u> </u>	<u> </u>			
whiam a	m, discrepancies	. (Attention for Sample II.	пишиста).							

<sup>\*</sup>Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);

Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12)

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

### Columbia Analytical Services, Inc. Sample Acceptance Check Form

Client: Air, Soil, & Water Environmental, Inc. (ASW)

Work order:

P1001356

Project: University Medical Center of El Paso / 009-UMC-012

Sample(s) received on: 04/16/10 Date opened: 04/16/10		by: MZAMORA				
Lab Sample ID	Container	Required	Received	Adjusted	VOA Headspace	Receipt / Preservation
	Description	pH*	pH	pH	(Presence/Absence)	Comments
P1001356-006.01	PUF (Low Vol)					
P1001356-007.01	PUF (Low Vol)					-
		·				
	<u> </u>					
				•		
· · · · · · · · · · · · · · · · · · ·						
:						
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					<u> </u>	
						<del></del>
		·				
	<u> </u>					
Explain any discrepand	ion (in alzado lab anom	In III	- N -			

Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2	SO4 (pH<2)	; Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);
Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12)	•	RSK - MBEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

### RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-7

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

CAS Sample ID: P1001356-002

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/9/10 Date Received: 4/16/10 Date Extracted: 4/19/10

Date Analyzed: 4/26/10

Volume Sampled: 2.9712 m<sup>3</sup> Final Extract Volume:

· .			
L	Result	MRL	Data
ridge	µg/m³	μg/m³	Qualifier

CAS#	Compound	Result	MRL		Result	MRL	Data
	-	ng/Cartridge	ng/Cartridge		μg/m³	$\mu g/m^3$	Qualifier
12674-11-2	Aroclor 1016	ND	500		ND	0.17	
11104-28-2	Aroclor 1221	ND	500	!	ND	0.17	
11141-16-5	Aroclor 1232	ND	500		ND	0.17	
53469-21-9	Aroclor 1242	ND	500		ND	0.17	•
12672-29-6	Aroclor 1248	ND ·	500		ND	0.17	
11097-69-1	Aroclor 1254	ND	500		ND	0.17	
11096-82-5	Aroclor 1260	ND	500		ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

### RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: IN-CON-4-9

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

CAS Sample ID: P1001356-003

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/10/10 Date Received: 4/16/10

Date Extracted: 4/19/10

Date Analyzed: 4/26/10

Volume Sampled: 3,2024 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	$\mu g/m^3$	$\mu g/m^3$	Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.16	
11104-28-2	Aroclor 1221	ND	500	ND	0.16	
11141-16-5	Aroclor 1232	ND	500	ND	0.16	
53469-21-9	Aroclor 1242	ND	500	ND	0.16	2.5
12672-29-6	Aroclor 1248	ND	500	ND	0.16	
11097-69-1	Aroclor 1254	7,200	500	2.3	0.16	
11096-82-5	Aroclor 1260	ND	500	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

#### RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-9

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

CAS Sample ID: P1001356-004

Date Collected: 4/10/10

Date Received: 4/16/10

Date Extracted: 4/19/10

Date Analyzed: 4/26/10

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Volume Sampled: 2.9804 m<sup>3</sup> Final Extract Volume:

10 ml

Test Notes:

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	$\mu g/m^3$	Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.17	
11104-28-2	Aroclor 1221	ND	500	ND	0.17	
11141-16-5	Aroclor 1232	ND	500	ND	0.17	
53469-21-9	Aroclor 1242	ND	500	ND	0.17	
12672-29-6	Aroclor 1248	ND	500	ND	0.17	
11097-69-1	Aroclor 1254	ND	500	ND	0.17	
11096-82-5	Aroclor 1260	ND	500	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

#### RESULTS OF ANALYSIS

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-11

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

Date Collected: 4/12/10

Date Received: 4/16/10

Date Extracted: 4/19/10

CAS Sample ID: P1001356-005

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Analyzed: 4/26/10 Volume Sampled: 3.291 m3 Final Extract Volume: 10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.15	
11104-28-2	Aroclor 1221	ND	500	ND	0.15	
11141-16-5	Aroclor 1232	ND	500	ND	0.15	
53469-21-9	Aroclor 1242	ND	500	ND	0.15	
12672-29-6	Aroclor 1248	ND	500	ND	0.15	
11097-69-1	Aroclor 1254	ND	500	ND	0.15	
11096-82-5	Aroclor 1260	ND	500	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL - Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-12

CAS Project ID: P1001356

CAS Sample ID: P1001356-006

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Client Project ID: University Medical Center of El Paso / 009-UMC-012

Test Notes:

Date Collected: 4/13/10 Date Received: 4/16/10

Date Extracted: 4/19/10

Date Analyzed: 4/26/10 Volume Sampled: 3,3059 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	μg/m³	Qualifier
12674-11-2	Aroclor 1016	ND	500	, ND	0.15	•
11104-28-2	Aroclor 1221	ND	500	ND	0.15	
11141-16-5	Aroclor 1232	ND	500	ND	0.15	
53469-21-9	Aroclor 1242	ND	500	ND	0.15	
12672-29-6	Aroclor 1248	ND	500	ND	0.15	
11097-69-1	Aroclor 1254	4,100	500	1.2	0.15	r • •
11096-82-5	Aroclor 1260	ND	500	ND	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-14

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

CAS Sample ID: P1001356-007

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/14/10

Date Received: 4/16/10 Date Extracted: 4/19/10

Date Analyzed: 4/26/10

Volume Sampled: 3.174 m<sup>3</sup> Final Extract Volume:

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.16	
11104-28-2	Aroclor 1221	ND	500	ND	0.16	
11141-16-5	Aroclor 1232	ND	500	ND	0.16	
53469-21-9	Aroclor 1242	ND	500	ND	0.16	
12672-29-6	Aroclor 1248	ND	500	ND	0.16	
11097-69-1	Aroclor 1254	ND	500	ND	0.16	
11096-82-5	Aroclor 1260	ND ND	500	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

#### RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Method Blank

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

CAS Sample ID: P100419-MB

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: NA

Date Received: NA

Date Extracted: 4/19/10

Date Analyzed: 4/26/10

Volume Sampled:

NA m³

Final Extract Volume:

10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result μg/m³	MRL μg/m³	Data Qualifier
			<u> </u>	 		Qualifier
12674-11-2	Aroclor 1016	ND	500	NA.	NA	
11104-28-2	Aroclor 1221	ND	500	NA	NA	
11141-16-5	Aroclor 1232	ND	500	NA	NA	
53469-21-9	Aroclor 1242	ND	500	NA	N.A.	
12672-29-6	Aroclor 1248	ND	500	NA	NA	
11097-69-1	Aroclor 1254	ND	500	NA	NA	
11096-82-5	Aroclor 1260	ND	500	 NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method. NA = Not applicable.

### SURROGATE SPIKE RECOVERY RESULTS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Project ID:

University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge(s)

Test Notes:

Date(s) Collected: 4/9 - 4/14/10

Date(s) Received: 4/16/10

Date(s) Extracted: 4/19/10

Date(s) Analyzed: 4/26/10

		2,4,5,6-Tetrachlo	oro-m-Xylene	Decachlorob		
Client Sample ID	CAS Sample ID	%	Acceptance	%	Acceptance	Data
		Recovered	Limits	Recovered	Limits	Qualifier
Method Blank	P100419-MB	82	60-120	99	60-120	
Lab Control Sample	P100419-LCS	85	60-120	95	60-120	
Duplicate Lab Control Sample	P100419-DLCS	80	60-120	96	60-120	
OUT-CON-4-7	P1001356-002	<b>75</b>	60-120	88	60-120	
IN-CON-4-9	P1001356-003	80	60-120	99	60-120	
OUT-CON-4-9	P1001356-004	79	60-120	97	60-120	,
OUT-CON-4-11	P1001356-005	75	60-120	95	60-120	
OUT-CON-4-12	P1001356-006	76	60-120	96	60-120	
OUT-CON-4-14	P1001356-007	80	60-120	96	60-120	

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001356

CAS Sample ID: P100419-DLCS

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media: Test Notes:

PUF (Low Volume) Cartridge

Date Collected: NA Date Received: NA

Date Extracted: 4/19/10

Date Analyzed: 4/26/10

Volume(s) Analyzed: NA m<sup>3</sup>

			Spike Amount	Re	sult			Project			
CAS#	Compound		LCS / DLCS	LCS	DLCS	% Re	covery	Acceptance	RPD	RPD	Data
		·	μg/ml	μg/ml	μg/ml	LCS	DLCS	Limits		Limit	Qualifier
11097-69-1	Aroclor 1254		500	457	451	91	90	70-130	1	15	

Verified By: Date:

#### LABORATORY REPORT

2655 Park Center Drive, Suita A.

May 5, 2010

Robert Daniels Air, Soil, & Water Environmental, Inc. (ASW) 1615 Arizona Avenue El Paso, TX 79902

RE: University Medical Center of El Paso / 009-UMC-012

Dear Robert:

Enclosed are the results of the samples submitted to our laboratory on April 21, 2010. For your reference, these analyses have been assigned our service request number P1001401.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 12 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L10-3; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Karen Ryan

Project Manager



2655 Park Center Drive, Suite A

Simi Valley, CA 93065

895 526,7161

805.526.7270 fa:

www.castab.com

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

CAS Project No:

P1001401

Project: University Medical Center of El Paso / 009-UMC-012

#### **CASE NARRATIVE**

The samples were received intact under chain of custody on April 21, 2010 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

#### Aroclors Analysis

The low volume PUF samples were analyzed for arochlors. The samples were extracted and analyzed for aroclors in accordance with EPA Method TO-10A. An aliquot of the extract was injected into a gas chromatograph with dual electron capture detectors (GC/ECD).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

Client: Project: Air, Soil, & Water Environmental, Inc. (ASW) University Medical Center of El Paso/009-UMC-012 Service Request: P1001401

#### SAMPLE CROSS-REFERENCE

SAMPLE#	CLIENT SAMPLE ID		<u>DATE</u>	TIME
P1001401-001	OUT-CON-4-15		4/16/10	10:11
P1001401-002	OUT-CON-4-17		4/18/10	10:35
P1001401-003	OUT-CON-4-18	•	4/19/10	10:58
P1001401-004	OUT-CON-4-19		4/20/10	12:15

Page 1 of 1

C.S. Analytical Services...

2655 Park Center Drive, Suite A

Air - Chain of Custody Record & Analytical Service Request

Page of

Cooler / Blank Temperature 20 ಿಂ Project Requirements (MRLs, QAPP) specific instructions Preservative or Comments e.g. Actual CAS Project No. Analysis Method/Analytes 10.5 Time: EDD Units; Cate: 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard CAS Confact: SPA TO-10A EDD required Yes / NA Requested Turnaround Time in Business Days (Surcharges) please circle × × 3186.6 L 2966.5 L 3008.3 L 3182.6 L Sample Volume Type: P.O. # / Billing Information AIR, SOIL and WATER ENVIRONMENTAL, Inc. Flow Controller (Bar code -FIC# University Medical Center of El Paso Received by: (Signature) Received by: (Signature) Received by: (Signature) Canister tD (Bar code # -AC, SC, etc.) 1615 Arizona Avenue El Paso, Texas 79902 Sampler (Print & Sign) Robert Daniels Tier III (Data Validation Package) 10% Surcharge
Tier V (client specified) roject Number 009-UMC-012 Sample Type (Air/Tube/ Time. 3:58 pm Solid) PUF PUF PUF Time: Time: Date: 10 4-20-10 10:35 10:58 12:15 Collected 10:11 Date: Date: 4-18-2010 4-19-2010 4-20-2010 4-16-2010 Collected AIR, SOIL and WATER ENVIRONMENTAL, Inc. 512-697-8300 Laboratory ID Number ET)  $\sim$ Company Name & Address (Reporting Information) Tier I - (Results/Default if not spegified)  $\overline{\mathrm{X}}$ Report Tier Levels - please select Email Address for Result Reporting rdaniels53@sbcglobal.net Simi Valley, California 93065 1615 Arizona Avenue El Paso, Texas 79902 Reliquished by: (Signature) Reliquished by: (Signature) Reliquished by: (Signature) Phone (805) 526-7161 OUT-CON-4-17 OUT-CON-4-18 OUT-CON-4-19 OUT-CON-4-15 Fax (805) 526-7270 Robert Daniels Tier II (Resutts + QC) hone (915) 533-3344 Client Sample ID oject Manager

#### Columbia Analytical Services, Inc. Sample Acceptance Check Form

Client:	Air, Soil, & W	Vater Environmental,	Inc. (ASW)		•	_	Work order:	P1001401			
Project:	University Me	edical Center of El Pa	so / 009-UM	C-012							
Sample(	s) received on:	04/21/10		_		Date opened	: 04/21/10	by:	MZAN	40RA	
Note: This	form is used for <u>all</u>	samples received by CAS.	The use of this fo	orm for cu	stody seals	s is strictly mean	t to indicate presence	/absence and not as a	n indicati	on of	
compliance	or nonconformity.	Thermal preservation and pl	H will only be ev	/aluated e	ither at the	request of the cl	ient and/or as require	ed by the method/SOI		Na	NI/A
1	W/		بالقائمية المساهدية	-1:4	1- T	<b>5</b> 0			<u>Yes</u> ⊠	<u>No</u> □	<u>N/A</u>
1	. –	containers properly i	narked with	chem s	ampie ii	97					
2		upplied by CAS?							X		
3	_	ontainers arrive in go	ood condition	17					×		
4		of-custody provided?				•			$\boxtimes$		
5		n-of-custody properly	_						X		
6	Did sample co	ontainer labels and/o	r tags agree	with cu	stody pa	pers?			X		
7	Was sample v	Was sample volume received adequate for analysis?									
8 .	Are samples v	vithin specified holdin	ng times?						X		
9	Was proper te	mperature (thermal	preservation	of coo	ler at red	ceipt adhered	l to?		$\boxtimes$		□ .
	C	Cooler Temperature	. 3	_°C	Blank	Temperature		°C			
10	Was a trip bla	ank received?			*		•			X	
	Trip blank s	upplied by CAS:									
11	Were custody	seals on outside of co	ooler/Box?					<u> </u>		X	
	Location of	seal(s)?				•		Sealing Lid?			X
	Were signat	ure and date included	?								X
	Were seals i										X
	Were custody	seals on outside of sa	mple contain	er?						X	
	Location of							Sealing Lid?			X
		ure and date included	?			• •					X
	Were seals i		•								×
12		have appropriate <b>pre</b>	servation a	ccordin	g to met	hod/SOP or 0	Client specified	information?			X
		nt indication that the			_						X
		ials checked for prese		-		10301 101:		•			X
							116				
40		nt/method/SOP requir		-	eck the	sample pH a	nd <u>if necessary</u> a	alter 117			X
13	Tubes:	Are the tubes cap		CU7							X
		Do they contain									X
14	Badges:	Are the badges p	roperly capp	ed and	intact?						X
·		Are dual bed bac	lges separate	d and in	ıdividua	illy capped ar	nd intact?				X
Lab	Sample ID	Container	Required	Re	eeived	Adjusted	VOA Headspa	ce Receir	it / Pres	ervation	
		Description	рП *		pH	pH	(Presence/Absenc		Comme		
P1001401	I-001.01	PUF (Low Vol)									
P1001401		PUF (Low Vol)		1					·		
P1001401		PUF (Low Vol)									
P1001401	1-004.01	PUF (Low Vol)									
							!				
Explain a	ny discrepancies	: (include lab sample II	) numbers):				·				
	<u> </u>										

<sup>\*</sup>Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, Fl2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12);
Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12)

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

#### RESULTS OF ANALYSIS

Page I of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-15

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001401

CAS Sample ID: P1001401-001

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/16/10

Date Received: 4/21/10

Date Extracted: 4/22/10

Date Analyzed: 4/26/10

Volume Sampled: 3.0083 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result MRL	Result	MRL	Data
CAS II	Compound	ng/Cartridge ng/Cartridge	μg/m³	μg/m³	Qualifier
12674-11-2	Aroclor 1016	ND 500	. ND	0.17	
11104-28-2	Aroclor 1221	ND 500	ND	0.17	
11141-16-5	Aroclor 1232	ND 500	ND	0.17	
53469-21-9	Aroclor 1242	ND 500	ND	0.17	
12672-29-6	Aroclor 1248	ND 500	ND	0.17	
11097 <b>-</b> 69-1	Aroclor 1254	ND 500	ND	0.17	-
11096-82-5	Aroclor 1260	ND 500	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Verified By:

6

#### RESULTS OF ANALYSIS

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-17

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001401

CAS Sample ID: P1001401-002

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/18/10

Date Received: 4/21/10

Date Extracted: 4/22/10

Date Analyzed: 4/26/10 Volume Sampled: 3.1826 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result µg/m³	MRL μg/m³	Data Qualifier
			ng/Cartridge			Quantito
12674-11-2	Aroclor 1016	ND	500	ND	0.16	
11104-28-2	Aroclor 1221	ND	500	ND	0.16	
11141-16-5	Aroclor 1232	ND	500	ND	0.16	
53469-21-9	Aroclor 1242	ND	500	ND	0.16	
12672-29-6	Aroclor 1248	ND	500	ND	0.16	
11097-69-1	Aroclor 1254	ND	500	ND	0.16	
11096-82-5	Aroclor 1260	ND	500	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

#### RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-18

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001401

CAS Sample ID: P1001401-003

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/19/10

Date Received: 4/21/10

Date Extracted: 4/22/10

Date Analyzed: 4/26/10

Volume Sampled: 3.1866 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	μg/m³	Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.16	
11104-28-2	Aroclor 1221	ND	500	ND	0.16	
11141-16-5	Aroclor 1232	ND	500	ND	0.16	
53469-21-9	Aroclor 1242	ND	500	ND	0.16	
12672-29-6	Aroclor 1248	ND	500	ND	0.16	
11097-69-1	Aroclor 1254	ND	500	ND	0.16	
11096-82-5	Aroclor 1260	ND	500	ND	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: OUT-CON-4-19

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001401

CAS Sample ID: P1001401-004

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: 4/20/10

Date Received: 4/21/10

Date Extracted: 4/22/10

Date Analyzed: 4/26/10 Volume Sampled: 2.9665 m<sup>3</sup>

Final Extract Volume:

10 ml

CAS#	Compound	Result	MRL	Result	MRL	Data
		ng/Cartridge	ng/Cartridge	μg/m³	μg/m³	Qualifier
12674-11-2	Aroclor 1016	ND	500	ND	0.17	
11104-28-2	Aroclor 1221	ND	500	ND	0.17	
11141-16-5	Aroclor 1232	ND	500	ND	0.17	
53469-21-9	Aroclor 1242	ND	500	ND	0.17	
12672-29-6	Aroclor 1248	ND	500	ND	0.17	
11097-69-1	Aroclor 1254	ND	500	ND	0.17	
11096-82-5	Aroclor 1260	ND	500	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit The minimum quantity of a target analyte that can be confidently determined by the referenced method.

#### RESULTS OF ANALYSIS

Page 1 of 1

**Client:** 

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Method Blank

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001401

CAS Sample ID: P100422-MB

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Test Notes:

Date Collected: NA Date Received: NA

Date Extracted: 4/22/10

Volume Sampled:

Date Analyzed: 4/26/10

Final Extract Volume:

NA m³ 10 ml

10

CAS#	Compound	Result ng/Cartridge	MRL ng/Cartridge	Result μg/m³	MRL μg/m³	Data Qualifier
12674-11-2	Aroclor 1016	ND	500	NA	NA	
11104-28-2	Aroclor 1221	ND	500	NA	NA	
11141-16-5	Aroclor 1232	ND	500	NA	NA	•
53469-21-9	Aroclor 1242	ND	500	NA	NA	
12672-29-6	Aroclor 1248	ND	500	NA	NA	
11097-69-1	Aroclor 1254	ND	500	NA	NA	
11096-82-5	Aroclor 1260	ND	500	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method. NA = Not applicable.

#### SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Project ID:

University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001401

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge(s)

Test Notes:

Date(s) Collected: 4/16 - 4/20/10

Date(s) Received: 4/21/10

Date(s) Extracted: 4/22/10

Date(s) Analyzed: 4/26/10

		2,4,5,6-Tetrachlo	oro-m-Xylene	Decachlorob	piphenyl
Client Sample ID	CAS Sample ID	%	Acceptance	%	Acceptance Data
		Recovered	Limits	Recovered	Limits Qualifi
Method Blank	P100422-MB	87	60-120	102	60-120
Lab Control Sample	P100422-LCS	83	60-120	99	60-120
Duplicate Lab Control Sample	P100422-DLCS	85	60-120	101	60-120
OUT-CON-4-15	P1001401-001	81	60-120	. 99	60-120
OUT-CON-4-17	P1001401-002	85	60-120	100	60-120
OUT-CON-4-18	P1001401-003	82	60-120	100	60-120
OUT-CON-4-19	P1001401-004	74	60-120	100	60-120

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY Page 1 of I

Client:

Air, Soil, & Water Environmental, Inc. (ASW)

Client Sample ID: Duplicate Lab Control Sample

Client Project ID: University Medical Center of El Paso / 009-UMC-012

CAS Project ID: P1001401

CAS Sample ID: P100422-DLCS

Test Code:

EPA TO-10A

Instrument ID:

HP6890/GC6/ECD/ECD

Analyst:

Test Notes:

Hani Cherazaie

Sampling Media:

PUF (Low Volume) Cartridge

Date Received: NA Date Extracted: 4/22/10

Date Collected: NA

Date Analyzed: 4/26/10

Volume(s) Analyzed: NA m3

·		Spike Amount	Re	sult			Project			
CAS#	Compound	LCS / DLCS	LCS	DLCS	% Re	covery	Acceptance	RPD	RPD	Data
		ng/ml	ng/ml	ng/ml	LCS	DLCS	Limits		Limit	Qualifier
11097-69-1	Aroclor 1254	500	467	463	93	93	70-130	0	15	

# Columbia Analytical Services

2655 Park Center Drive, Suite A

# Air - Chain of Custody Record & Analytical Service Request

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Page,

specific instructions Preservative or Comments e.g. Actual CAS Project No. Analysis Method/Analytes 1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard EPA TO-10A CAS Contact Requested Turnaround Time in Business Days (Surcharges) please circle CBs Sample Volume P.O. # / Billing Information AIR, SOIL and WATER ENVIRONMENTAL, Inc. Flow Controller (Bar code -FC #) University Medical Center of El Paso Canister ID (Bar code # -AC, SC, etc.) 1615 Arizona Avenue El Paso, Texas 79902 Robert Daniels Sampler (Print & Sign) 009-UMC-012 Project Number Sample Type (Air/Tube/ Solid) Project Name Time Collected Date Collected AIR, SOIL and WATER ENVIRONMENTAL, Inc. 512-697-8300 Laboratory ID Number Company Name & Address (Reporting Information) Email Address for Result Reporting rdaniels53@sbcglobal.net Simi Valley, California 93065 1615 Arizona Avenue El Paso, Texas 79902 Phone (805) 526-7161 Fax (805) 526-7270 Robert Daniels Phone (915) 533-3344 Client Sample ID Project Manage

HOLD

×

3174.0

×

3202.4 L

2980.4 L 3291.0 L 3305.9 L

2971.2 L 3189.1 L

PUF

09:31 10:05 10:01

4-9-2010 4-9-2010

PUF PUF

> 4-10-2010 4-10-2010 4-12-2010

OUT-CON-4-7

IN-CON-4-9

IN-CON-4-7

PUF PUF

10:31 10:45 PUF PUF

10:51 11:31

4-13-2010 4-14-2010

OUT-CON-4-12 OUT-CON-4-14

OUT-CON-4-11 OUT-CON-4-9

Project Requirements (MRLs, QAPP) Cooler / Blank Temperature Time: Time: Time: EDD Units: Date: Date: Date: EDD required Yes / No Type: Received by: (Signature) Received by: (Signature) Received by: (Signature) Tier III (Data Validation Package) 10% Surcharge .... 4:52 pm Time: Time: Time: Date: 4-15-10 Tier V (client specified) \_\_ Date: Date: Tier I - (Results/Default if not specified) Report Tier Levels - please select Reliquished by: (Signature) Robert Daniels Reliquished by: (Signature) Reliquished by: (Signature) Tier II (Results + QC)

•	SITE:_ LOCA INSTR	UMC TION: Tol	TLb∐as ⊒er Buildin MODEL N	on ⊔os⊔ g NOAirC□	T C ⊡_XiCAL]	IME PEI PERAT BRATE	MPLED: RIOD SAM OR:_Rober DB::B ES	PLED: t Daniel ios Defe	24 ⊔rs s		
	Ty □e Adsorbent Serial No. Sa □ □e No.	: : -	Cartridg PU Polyuret⊡ L-	e 1 JF	Cartridge PUF Polyuret and L-20 OUT-CC	2 C	artridge 3 PUF lyuret⊡ane fo	Cartrid PUI a□ Polyure	7	- - -	
	II. SAMPI  Cartridge Identifi-	LIN□ DAT	`A A⊟bient	A□bient Pressure, in		(0), 0LWin	Sa□□in	g Period	Total Sa□□ing	Total Sa⊞⊒e Volu⊒e,	
÷	L-19	Location outside con outside cont	Te□□, °F t 73.9 46.9	□g 29.99 in 29.86 in	Cartridge 1 2285.4 2204.2	Cartridge : N A N A	Start 10:45 08:31	Sto□ 10:45 08:31	Ti □e, □in. 1,440 1,440	L 3291.05 3174.0	A⊡il 11, 2010 A⊡il 12, 2010
·											
OUTSIDE O	10□ c FEMER□ENC C□EC	Flo Clec Bof Set Point BOOM Pl	Wit⊡n <u></u> (□[N)□ □ RE	□ost- 22	61.5	re- 2224.7 ost- 2226.		3 <u>C</u> 2213.9 	artridge 4		
	DATE	A□ril 8, 2	010								

	SITE:_ LOCA	ΓΙΟΝ: Το	T□o□as □er Buildin			TIME PER OPERATO			24 □r	S	-
	INSTR	UMENT I	MODEL 1	NOAirC[	<u>e</u> □xiCAL	IBRATED	B□: <u> </u>	ios Defe	nder 510-	·M	
	PUMP	SERIAL 1	NO.: <u>20</u>	774	F	RAIN:	_□ES	x_NO			
	ADSO	RBENT C	ARTRID	□E INFO	RMATIO	<b>N</b> :					
	Ty⊏e:		Cartridg PU	е 1 Љ	Cartridge PUF	2 Ca	rtridge 3 PUF	Cartrid PUI	lge 4		
	Adsorbent:		Polyuret □		Polyuret ⊑an				et⊡ane foa⊟	<del></del>	
	Serial No.:		L	-11	L-28					_ `	
S	 Sa□		OUT-C	CON-4-7	OUT-CO	DN-4-9		<u>.                                    </u>			
	II. SAMPL	IN□ DAT	î <b>A</b>								
					-						•
	Cartridge			A⊡bient	Flo □ Rate	(_),	Sa□□ir	g Period	Total	Total Sa⊡⊡e	
	Identifi-	Sa□□ing Location	A□bient Te□□, °F	Pressure, in					Sa□□ing	Volu□e,	
	cation L-11	OUT cont	53.1	g 30.01 in	Cartridge 1 2063.3	Cartridge 2 N 🔼	Start 10:05	Sto□ 10:05	Ti□e, □in. 1,440	L 2971.2	A⊡ril 8
	L-28	OUT cont	64.0	29.85 in	2069.7	N 🔼	10:31	10:31	1,440	2980.4	A⊡ril 9,
	D 20			1							
	20										
			***************************************							-	
	III. FIELD	AUDIT		***			444			-	
		AUDIT		Cartridge 1	Cartrid	ge 2	Cartridge	<u>3</u> C	artridge 4		
	III. FIELD A		·	<del>-</del>	<u>Cartrid</u>	_	Cartridge	3 <u>C</u>	artridge 4		
	III. FIELD A	AUDIT  o□ C□ec□ f Set Point	Wit⊡n	]		_	]	3 <u>C</u>	artridge 4		
	III. FIELD A	o□ C□ec□' f Set Point (	Wit⊡n <u></u> (□0N)□ 10	re- 2268.3		e- 2224.7		-2213.9			
	III. FIELD A Audit FI 10□ of	o□ C□ec□' f Set Point (	Wit⊡n <u></u> (□0N)□ 10	re- 2268.3		e- 2224.7			<del>,</del>		
	Audit FI  10 of	o□ C□ec□' f Set Point ( ] ROOM PF	Wit[in _[ ([[i]N)]]	re- 2268.3	61.5	e- 2224.7		-2213.9			

L-2   inside cont   64.0   29.85 in   2223.9   N/A   10:07   10:07   1,440   3202.4     L-15   outside cont   73.9   29.86 in   2204.2   N/A   11:31   11:31   1,440   3174.0     III. FIELD AUDIT     Cartridge 1   Cartridge 2   Cartridge 3   Cartridge 4     Audit Flo   C   C   Wit		INSTR	UMC	T⊡b□as □er Buildin MODEL N	√O <u>AirC</u>	LT CC È□xiCALI	'IME I PERA IBRA'	PERI ATO: TED	OD SAM R: <u>Robe</u>	IPLED:_ rt Danie Sios Defe	to 4-14-10 24 □rs ls ender 510-	3	
II. SAMPLIN□ DATA    Cartridge   Sa□Cling   A□bient   Pressure, in   □g   Cartridge   Cartridge   Start   Sto□   TiCle, □in. L   L-9   inside cont   53.1   30.01   in   2214.7   NtA   9.31   09.31   1,440   3189.1   L-2   inside cont   64.0   29.85   in   2223.9   NtA   10:07   10:07   1,440   3202.4   L-15   outside cont   73.9   29.86   in   2204.2   NtA   11:31   11:31   1,440   3174.0    III. FIELD AUDIT    Cartridge 1   Cartridge 2   Cartridge 3   Cartridge 4   Cartridge 4   Cartridge 5   Cartridge 6   Cartridge 6   Cartridge 6   Cartridge 7   Cartridge 7   Cartridge 8   Cartridge 8   Cartridge 9   Cartri		Ty⊏e: Adsorbent:		Cartridg PU Polyuret	e 1 JF ane foa□	Cartridge PUF Polyuret⊑and	2	Foly	PUF vuret⊡ane fo	_ <u>PU</u>	F	<del>-</del> -	
Cartridge   Identification   Cartridge   Identification   Cartridge   Cartri		·			N-4-7	IN-CON-	<del>1-9</del>	OL	JT-CON-4	1-14 - -		-	
L-9   inside con   53.1   30.01 in   2214.7   N/A   9:31   09:31   1,440   3189.1		Identifi-		A⊡bient Te⊓□ °F	Pressure, in						Sa□□ling	Sa□□e Volu□e,	
L-2   inside con   64.0   29.85 in   2223.9   N/A   10:07   10:07   1,440   3202.4							1			1			A ⊡il 8, 2
III. FIELD AUDIT    Cartridge 1   Cartridge 2   Cartridge 3   Cartridge 4     Audit Flo C C c wit in		1	inside cont			2223.9	NZ	1	10:07	10:07	1,440	3202.4	A [ril 12,
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Ty ☐ Adsorbent Serial No.	:	Cartridg PU Polyuret L	JF	Cartridge PUF Polyuret⊡an L-12		Cartridge 3 PUF  olyuret□ane fo L-16	Cartric PU: a□ Polyur	F	<del></del>	
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L-12	outside conf	69.1	29.76 in	2225.6	NA	08:31	08:31	1,440	3204.9	Marc□31, 2010
L-16	outside conf	68.0	29.77 in	2216.7	N [A	10:01	10:01	1,440	3192.1	A⊡il 06, 2010
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OUTSIDE OF



#### **Emergency Response Action Plan**

University Medical Center of El Paso

For exterior PCB Abatement containment failures due to strong winds or other environmental factors the following shall apply:

- 1. Steps to minimize possibility of failure:
  - a. Containments shall be cleared and taken down before the end of each work shift
  - b. Containment shall be supported by means of prefabricated steel scaffold frames
  - c. Scaffold frames shall be secured to the floor or wall with concrete anchors
  - d. Solid barriers consisting of plywood sheets shall be secured to the scaffold on exterior of the containment
  - e. Containment shall be monitored continuously for signs of possible failure
  - f. The supervisor shall assign repair duties or contamination control duties to each member of the work crew
  - g. Waste materials shall be containerized as soon as feasible after they are removed from the walls
- 2. Required actions in the event of containment failure:
  - a. All abatement work shall stop immediately if failure occurs
  - b. Any damage or breach in the integrity of the containment shall be repaired immediately by personnel assigned to this task
  - While repairs are being done, personnel assigned to contamination control shall immediately cover or containerize all exposed waste materials
  - d. Removal work shall not restart until the supervisor is assured that the containment is sufficient for the current environmental conditions

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II. SAMP	LIN DAT	<sup>T</sup> A  A□bient	A□bient Pressure, in	Flo⊡ Rate (	□), □L⊞in	Sa⊟⊡in	g Period	Total Sa□□ing	Total Sa□de Volude,	]
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II. SAMP  Cartridge Identification	LIN DAT  Salling Location	A□bient Te□□, °F	A□bient Pressure, in	Flo□ Rate ( Cartridge 1	□), □L⊞in	Sa⊟⊡in	g Period	Total Sa□□ing	Total Sa□de Volude,	-1
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Cartridge Identification L-1 L-4	Salling Location PreER inside cont	A□bient Te□□, °F 67 48.9	A⊟bient Pressure, in □g 29.94 in 29.84 in	Flo□ Rate ( Cartridge 1 2052.1 2273.4	□), □L⊞in  Cartridge 2  N □ A  N □ A	Sa□□in Start 11:52 07:43	g Period  Sto  11:52  07:43	Total Sa□□ing Ti□e, □in. 1,440 1,440	Total Sa□ de Volu de, L 2955.0 3273.7	Marc□30, 2 Marc□31, 2
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Figure 5. Co  $\square$  Lendiu  $\square$  Met  $\square$ od TO-10A field test data s  $\square$ eet.

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DATE: February 1, 2010

#### **ATTACHMENT D**



# UNIVERSITY MEDICAL CENTER OF EL PASO



UMC Coating Review Checklist	
Semi Annual Inspection of all Facade elastomeric coating systems for proper coverage and integrity.	
Bldg Name Date Address Inspector's Name Address Inspector's Signature	
Facade Level Tour the perimeter of the hospital from the street and conduct a facade review using high-powered binoculars twi Document any deterioration e.g. peeling, fading, chipping) in the coating system. Inspect top floor walls from roo	
CHECK  Inspect the upper facade window surrounds using ground based inspections and high power binoculars.  Inspect the horizontal Pre-cast concrete section of the facade.  Inspect any damage to cooling tower surrounds from loose or damaged antenna or dish installations.  Inspect upper top floor wall for damage at tie back locations from window washing d-ring clamping.	
Ground Floor Level Tour the perimeter of the hospital ground level. Document any deterioration in the coating system.	
CHECK  Inspect the elastomeric coating at the double striping located at caulking joint for contrasting color indication.  Inspect any concrete spalling chipping or cracking at columns, column cove, or retail facade panels or entryways.  Inspect any cracks in new caulking that would expose the uncoated section of concrete behind the caulk joint.  Inspect all exterior signage for loose or hanging signage that may expose anchors that are inserted in concrete.  Inspect any damage to retail window mullions that tie into the concrete panels.  Inspect any damage to spandrel beams or columns from window washing ropes as cleaners descend from the building.  Inspect any damage to facade retail wall from bikes as they are locked with chains into bike rack.  Inspect any damage to concrete coping stones at all planter locations from landscaping activity.  Inspect sitting areas for damage from vandalism or cigarette burns.  Inspect the concrete coping stones for damage.  Additional Information  Photos attached	
Additional narrative attached	ala Marah milika ya penjenjenani d
**The Manager of Portfollo Engineering ("PCB Program Manager") will thoroughly inspect the exterior facade ofUMC two times per y deterioration and damage to the coating will be noted, and corrective work plans will be initiated to repair the coating to the origina	

